

TARGETED INTERVENTION: PRACTICE and STRATEGIES
MATHEMATICS TUTORING

TIPS

Grade

MATH



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MATHEMATICS TUTORING TIPS

Targeted Intervention: Practice and Strategies

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First Grade Math Tutoring TIPS

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Domain: Operations and Algebraic Thinking

Standard 1 Lesson 1

Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

Standard 2 Lesson 2

Solve word problems that call for addition of three whole numbers whose sum is less than 20 . . .

Standard 3 Lesson 3

Apply properties of operations as strategies to add and subtract.

Standard 4 Lesson 4

Understand subtraction as an unknown addend problem. For example, subtract 10-8 by finding the number that makes 10 when added to 8.

Standard 5 Lesson 5

Relate counting to addition and subtraction.

Standard 6 Lesson 6

Add and subtract within 20, demonstrating fluency for addition and subtraction within 10.

Standard 7 Lesson 7

Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.

Standard 8 Lesson 8

Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers.

Domain: Number and Operations in Base Ten

Standard 1 Lesson 9 (Coming shortly)

Standard 2 Lessons 10

Understand that the two digits of a two-digit number represent amounts of tens and ones.

Standard 2 a. Lesson 11

10 can be thought of as a bundle of ten ones – called a “ten.”

Standard 2 b. Lesson 12

The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.

Standard 2 c. Lesson 13

The numbers 10, 20, 30, 40, 50, 60, 70, 80, and 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

Standard 3 Lesson 14

Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.

Standard 4 Lesson 15

Add within 100, including adding a two-digit number and a one-digit number, and adding a two digit number and a multiple of 10. . .

Standard 5 Lesson 16

Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

Standard 6 Lesson 17

Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 . . .

Domain: Measurement and Data

Standard 1 Lesson 18

Order three objects by length; compare the lengths of two objects indirectly by using a third object.

Standard 2 Lesson 19

Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object end to end . . .

Standard 3 Lesson 20

Tell and write time in hours and half-hours using analog and digital clocks

Standard 4 Lesson 21

Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

Domain: Geometry

Standard 1 Lesson 22

Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.

Standard 2 Lesson 23

Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders to create a composite shape, and compose new shapes from the composite shape.

Standard 3 Lesson 24

Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.



Mathematics Tutoring Session Template

Before You Begin	Common Core Identification	
	Domain: Operations and Algebraic Thinking	Cluster: Represent and solve problems involving addition and subtraction.
	Standard 1: Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.	
	Key Academic Mathematics Vocabulary (3 or Fewer)	
	Subtract: to remove one quantity from another.	
2 Minutes	Notes and Materials	
	Notes and suggestions for an effective lesson: Make sure each student has a storyboard and counters, and that each student moves the counters along with the story. Have the student explain what he/she is doing as he/she shows the story on the board.	
	Materials you will need: <ul style="list-style-type: none"> Forest Storyboard 20 counters 	
	LAUNCH—Assess and Provide Background Knowledge	
	1. Connect to prior learning. Use a "hook" to gain the student's attention. Place 6 counters on the table. Tell the student you are going to subtract 2. Remove 2 counters.	
8 Minutes	2. Introduce and review Key Academic Mathematics Vocabulary. Explain that one way to subtract is to take a certain number away from another number.	
	INSTRUCT—Provide Explicit, Interactive Instruction	
	3. State the objective. Say: "Today we are going to be solving subtraction word problems."	
	4. Provide explicit, step-by-step instructions. <ul style="list-style-type: none"> Show the student the Forest Storyboard. Explain that you will be telling a story and that the student should listen carefully to help you decide what to subtract. Say, "Eight bears were swimming in the lake." (Place 8 counters in the lake on the storyboard.) "Three bears got out to lie in the sun." (Move 3 counters out of the lake.) "How many bears are left in the lake? Let's count them together: one, two, three, four, five. There are 5 bears left in the lake because $8 - 3 = 5$." As you tell the next story, ask the student to place the counters in the correct spots on the storyboard. Say, "Six bears were climbing in the trees." (The student places 6 counters in the trees on the storyboard.) "Three of them decided to go for a swim." (The student moves 3 of the counters to the lake.) "How many bears are left climbing in the trees? You count them for me." (The student should count "one, two, three.") "There are 3 bears left in the trees because $6 - 3 = 3$." 	
	5. Model. <ul style="list-style-type: none"> Show the student the Forest Storyboard. Explain that you will be telling a story and that the student should listen carefully to help you decide what to subtract. Say, "Eight bears were swimming in the lake." (Place 8 counters in the lake on the storyboard.) "Three bears got out to lie in the sun." (Move 3 counters out of the lake.) "How many bears are left in the lake? Let's count them together: one, two, three, four, five. There are 5 bears left in the lake because 	

5 Minutes	8 – 3 = 5.”
	6. Check for understanding (work problem with student). <ul style="list-style-type: none"> As you tell the next story, the student will move the counters around the storyboard and give the subtraction number sentence at the end. Say, “Five bears were sitting in the shade of the trees.” (The student places 5 counters under the trees). “All five bears decided to go for a swim.” (The student should move the 5 counters to the lake.) “How many bears are left sitting under the trees?” (The student should say, “Zero, because 5 – 5 = 0.”)
	GUIDED PRACTICE—Monitor Student Work
	7. Student works problems independently while tutor watches and coaches. Now the student will tell a subtraction story using the storyboard and counters, giving the correct subtraction sentence at the end.
	ASSESS—Evaluate Student Demonstration
5 Minutes	8. Student orally defines at least one Key Academic Mathematics Vocabulary word and skill or concept. Ask the student to explain what it means to subtract. The student should see subtraction as “take away.”
	9. Student works a problem while explaining EVERY step orally. Using the storyboard, have the student tell a story and give an example of what he/she is doing. Example: “Four dogs are playing under a tree.” (The student puts 4 counters on the storyboard.) “One dog decides that he has to go home.” (The student removes one counter.) “How many dogs are playing under the tree?” (The student should be able to say, “Three, because 4 – 1 = 3.”)

Forest Storyboard





Mathematics Tutoring Session Template

Before You Begin	Common Core Identification	
	Domain: Operations and Algebraic Thinking	Cluster: Represent and solve problems involving addition and subtraction.
	Standard 2: Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.	
	Key Academic Mathematic Vocabulary (3 or Fewer)	
	Add: to join two or more numbers or quantities or sets. Sum: the whole or total amount when you add two or more numbers.	
	Notes and Materials	
2 Minutes	Notes and suggestions for an effective lesson: Each student needs to have a preprinted Forest Storyboard and counters. The students should place the correct number of counters on the storyboard. Students should be able to give the sum as well as the addition sentence.	
	Materials you will need: <ul style="list-style-type: none">• Forest Storyboard• counters	
	LAUNCH—Assess and Provide Background Knowledge	
8 Minutes	1. Connect to prior learning. Use a "hook" to gain the student's attention. Say, "I love pepperoni pizza. I was making a pizza and put 2 pieces of pepperoni on it, and then I added 4 more pieces of pepperoni. How many pieces of pepperoni are on my pizza? What if I really liked pepperoni and wanted to add 5 more pieces? Do you know how many pieces of pepperoni I would have then? If not, that's what we're going to learn to do today."	
	2. Introduce and review Key Academic Mathematics Vocabulary Say, "There are two words we need to know for today's lesson. <i>Add</i> means to join two or more objects. The <i>sum</i> is the answer we get from adding."	
	INSTRUCT—Provide Explicit, Interactive Instruction	
	3. State the objective. Say, "Today we are going to learn how to add three numbers."	
	4. Provide explicit, step-by-step instructions. <ul style="list-style-type: none">• Show the student the Forest Storyboard.• Explain that you will be telling a story and that the student should listen carefully to help you determine which 3 numbers to add together and the sum of the numbers.• Say, "Two bears are swimming in the lake." (Place 2 counters in the lake on the storyboard.) "Three birds are flying in the sky." (Place 3 counters in the sky.) "Four squirrels are climbing in the trees. (Place 4 counters in the trees.) "How many animals are in the forest all together? Let's count them; one, two, three, four, five, six, seven, eight, nine. There are nine animals in the forest because $2 + 3 + 4 = 9$."• As you tell the next story, ask the student to place the counters in the correct spots on the storyboard.• Say, "Seven birds are flying in the sky." (The student places 7 counters in the sky.) "Three bears are swimming in the lake." (The student places 3 counters on the lake.) "Five squirrels are climbing in the trees." (The student place 5 counters on the trees.) "How many animals are in the forest all together? Let's count them: one, two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen. There are fifteen animals in the forest, because $7 + 3 + 5 = 15$." (Write the equation on white boards or paper so that the student makes the connection between the story problem, the actions, and the number sentence.	

5 Minutes	<p>5. Model.</p> <ul style="list-style-type: none"> • Show the student the Forest Storyboard. • Explain that you will be telling a story, and that the student should listen carefully to help you determine which 3 numbers to add together and the sum of the numbers. • Say, “One bear is swimming in the lake.” (Place 1 counter in the lake on the storyboard.) “Two birds are flying in the sky.” (Place 2 counters in the sky.) “Three squirrels are climbing in the trees.” (Place 3 counters in the trees.) “How many animals are in the forest all together? Let’s count them: one, two, three, four, five, six. There are six animals in the forest, because $1 + 2 + 3 = 6$.” (Write the equation on a white board or paper so that the student makes the connection between the story problem, the actions, and the number sentence.
	<p>6. Check for understanding (work problem with student).</p> <ul style="list-style-type: none"> • As you tell the next story, the student will move the counters around the storyboard and give the addition number sentence at the end. • Say, “Six squirrels are eating nuts in the trees. Three birds are flying in the sky. Two bears are swimming in the lake. How many animals are in the forest all together?” (The student should say, “Eleven, because $6 + 3 + 2 = 11$.”)
	<p>GUIDED PRACTICE—Monitor Student Work</p>
	<p>7. Student works problems independently while tutor watches and coaches.</p> <ul style="list-style-type: none"> • Now the student will make up his/her own three-digit addition story using the storyboard and counters, giving the correct addition sentence at the end.
5 Minutes	<p>ASSESS—Evaluate Student Demonstration</p>
	<p>8. Student orally defines at least one Key Academic Mathematics Vocabulary word and skill or concept.</p> <ul style="list-style-type: none"> • Ask the student to explain what it means to add. • Ask the student to explain what “sum” means.
	<p>9. Student works a problem while explaining EVERY step orally.</p> <p>Have the students come up with his/her own problem, adding 3 numbers to get the sum. Students should be able to show the story on the storyboard and write the number sentence with the sum.</p>

Forest Storyboard





Mathematics Tutoring Session Template

Before You Begin	Common Core Identification	
	Domain: Operations and Algebraic Thinking	Cluster: Understand and apply properties of operations and the relationship between addition and subtraction.
	Standard 3: Apply properties of operations as strategies to add and subtract. Examples: If $8 + 3 = 11$ is known, then $3 + 8 = 11$ is also known. (Commutative Property of addition.) To add $2 + 6 + 4$, the second two numbers can be added to make ten, so $2 + 6 + 4 = 2 + 10 = 12$ (Associative Property of addition.)	
	Key Academic Mathematics Vocabulary (3 or Fewer)	
	Addend: one of the quantities or numbers joined to another to get the sum.	
2 Minutes	Notes and Materials	
	Notes and suggestions for an effective lesson: <ul style="list-style-type: none">Domino Addition Worksheet.The main idea of this lesson is that students will be able to understand the Commutative Property of Addition. That means that addends can be switched around in any order in the number sentence and the sum will remain the same. Students will probably say that addends can be “switched around” instead of naming the Commutative Property of Addition, which is fine.	
	Materials you will need: <ul style="list-style-type: none">DominoesDomino Addition WorksheetWhite board, marker, and eraser (or just use a blank sheet of paper with a pencil)	
	LAUNCH—Assess and Provide Background Knowledge	
	1. Connect to prior learning. Use a “hook” to gain the student’s attention. <ul style="list-style-type: none">Have the student grab a handful of dominoes.Have the student pick one of the dominoes. Say, “How many dots are on this side?” (Point to one side.) “How many dots are on this side?” (Point to the other side.) “Now how many dots are on the entire domino?”Have a student pick another domino and do the procedure again.	
8 Minutes	2. Introduce and review Key Academic Mathematics Vocabulary. <ul style="list-style-type: none">Continue from the launch activity (step 1) and have the student pick another domino. This time when the student counts the dots one side, tell him/her that the number of dots can be used as an “addend” for an addition problem. Explain that addends are the numbers we use to give us a sum. Next, have the student count the dots on the other side. Ask him/her “What do we call the number on this side?” (Addend.) Then say, “What can we do with these two numbers that we call addends?” (Add to get a sum.) “So what is the sum of the dots on this domino?” Write the addends and the sum on the board as they are generated during this activity.	
	INSTRUCT—Provide Explicit, Interactive Instruction	
	3. State the objective. <p>Say, “Today we will see that addends can change places and still get the same sum. This is called the Commutative Property.”</p>	
	4/5. Provide explicit, step-by-step instructions and modeling. <ul style="list-style-type: none">Introduce the dominoes to the student and have him/her practice counting the number of dots on each side and then the total number of dots.Model the activity with the student until the student understands the process.Give the student the Domino Addition Worksheet and have him/her choose a domino. Show how to record the number of dots on the top in the top box and the number of dots in the bottom of the domino in the bottom of the box. (It is helpful if the domino is placed next to the box as if doing a vertical addition problem.) Then have the student add the numbers to get the sum. Have him/her	

5 Minutes	<p>count all the dots to see if the sum is the same as the number of total dots.</p> <ul style="list-style-type: none"> • Next, turn the domino around so the original bottom number is the top number. Continue the process as above. • Ask the student, “What do you notice when you look at the two problems?” (The student should see that the addends have changed places and the sum is still the same.) • Continue the process of looking at a domino and filling in the recording sheet.
	<p>6. Check for understanding (work problem with student).</p> <ul style="list-style-type: none"> • As you observe students working, question and clarify when needed so that students understand the Commutative Property for Addition.
	<p>GUIDED PRACTICE—Monitor Student Work</p>
	<p>7. Student works problems independently while tutor watches and coaches. The student will pick a domino and be able to correctly fill in the Domino Addition Worksheet.</p>
5 Minutes	<p>ASSESS—Evaluate Student Demonstration</p>
	<p>8. Student orally defines at least one Key Academic Mathematics Vocabulary word and skill or concept.</p> <ul style="list-style-type: none"> • Point to a box on the recording sheet and ask, “What is this number called?” (Addend.) • Write one of the problems generated from this activity on the board (for example, $2 + 5 = 7$). Ask, “Can I write this another way and still get the same sum, or answer?” The student should recognize that he/she can write $2 + 5$ or $5 + 2$ and still have an answer of 7.
	<p>9. Student works a problem while explaining EVERY step orally.</p> <ul style="list-style-type: none"> • Provide white board and markers for the student. Have the student write the two addition problems on the white board, explaining the vocabulary of addends and turning the domino to show that the order of the addends can be changed but the sum is still the same.

Domino Addition Sheet

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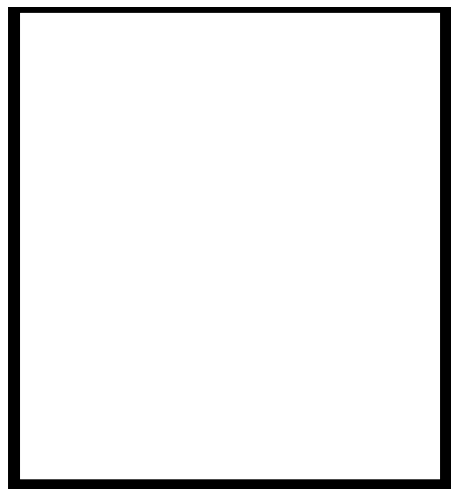
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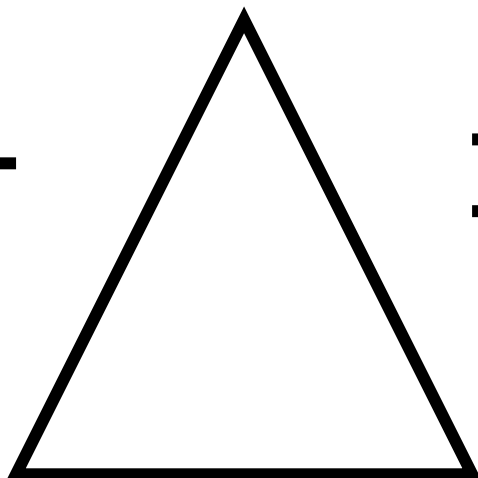
Mathematics Tutoring Session Template

Before You Begin	Common Core Identification	
	Domain: Operations and Algebraic Thinking	Cluster: Understand and apply properties of operations and the relationship between addition and subtraction.
	Standard 4: Understand subtraction as an unknown-addend problem. For example, subtract $10 - 8$ by finding the number that makes 10 when added to 8.	
	Key Academic Mathematics Vocabulary (3 or Fewer)	
	Counting on: a strategy used to add—e.g., $5 + \underline{\quad} = 7$. State the number 5, and each time you say the next number in sequence, raise a finger until you arrive at the sum. You should have raised two fingers, one for 6 and one for 7. Two fingers raised shows the answer of 2.	
2 Minutes	Notes and Materials	
	Notes and suggestions for an effective lesson: The main idea of this lesson is to show that addition can be used to solve subtraction problems. For example, with $7 - 5 = \underline{\quad}$, a student could count on from 5 to 7 to get the answer as shown above ($5 + \underline{\quad} = 7$).	
	Materials you will need: <ul style="list-style-type: none">CountersNumber sentence sheet	
	LAUNCH—Assess and Provide Background Knowledge	
	1. Connect to prior learning. Use a "hook" to gain the student's attention. Post the problem $5 - 1$ and say, "Can you tell me how you might solve this problem?" Have each student tell how he/she might solve it. (You do not need to actually solve the problem.)	
8 Minutes	2. Introduce and review Key Academic Mathematics Vocabulary. Say, "Today we will be using a counting on strategy today to solve subtraction problems. Can you count from 1-5 for me?" Give the student time to count. Say, "We will be using counting to solve subtraction problems today."	
	INSTRUCT—Provide Explicit, Interactive Instruction	
	3. State the objective. Students will be able to understand that they can add to find the unknown in a subtraction problem.	
	4. Provide explicit step-by-step instructions. <ul style="list-style-type: none">Say, "Today we are going on a bear hunt. We need to find the bears in the cave. Some bears will be in the cave and some will be outside. I have some cubes that are going to be the bears. I have 5 bears. One bear is outside." (Puts the rest under one hand.) "How many bears are in the cave?" (Explain that there were 5 bears altogether. One bear is "outside.") Ask, "How can we figure out how many bears are in the cave? One plus how many will make 5?" (Count with the student: 1, 2, 3, 4, 5. The student should see that you had to count 4 numbers. So, 1 plus 4 is 5. Therefore, there are 4 bears in the cave.Do the vocabulary activity.Takes 5 cubes. Have the student count the 5 cubes so he/she understands that there are really 5 cubes. Place 1 cube in the cave and leave the remaining 4 on the table. Say to the student, "I have 5 bears. I can see 4 cubes. So 5 subtract what gives me 4? I can figure how many by saying: '4 plus what will give me 5?' I know that from counting on that I can count 4 then count on to 5. So one bear is in the cave. So $5 - 1$ is 4, because $4 + 1$ equals 5."The student will now put some cubes in his/her hand and ask the tutor, "How many bears are in the cave?" As in the model activity, the tutor thinks out loud in figuring out the problems.The tutor then hides the bears in the cave.Play continues back and forth until the student is comfortable with the different combinations of bears in the cave with 5 cubes. (Note: If 5 is too easy, then add another cube. If 5 is too hard, then remove a cube.)	
	5. Model.	

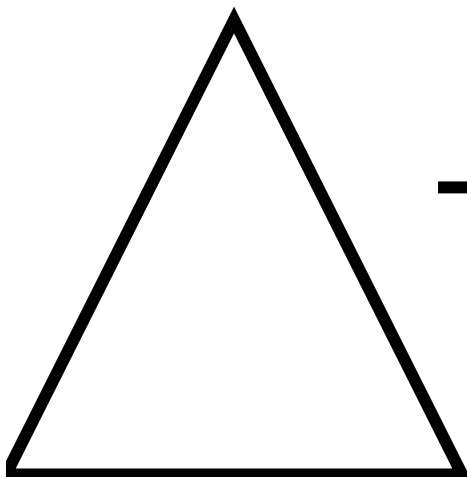
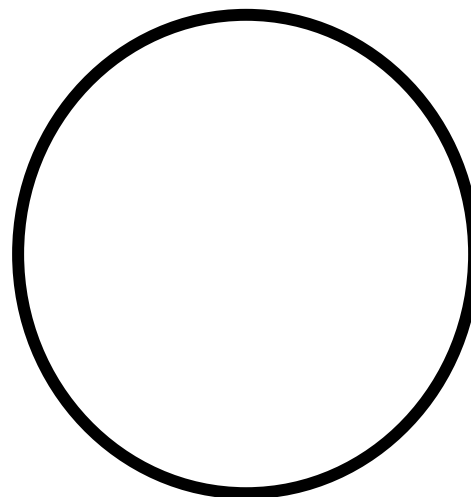
5 Minutes	<ul style="list-style-type: none"> Tutor takes 5 cubes. Have the student count the 5 cubes so they understand that there are really 5 cubes. Place 1 cube in the cave and leave the remaining 4 on the table. Say to the student, “I have 5 bears. I can see 4 cubes. So 5 subtract what gives me 4? I can figure how many by saying: ‘4 plus what will give me 5?’ I know that from counting on that I can count 4, then 5. So one bear is in the cave. So $5 - 1$ is 4 because $4 + 1$ equals 5.”
	6. Check for understanding (work problem with student). <ul style="list-style-type: none"> The tutor will observe the student performing the task. The student must be able to tell how many bears are in the cave and give the number sentences to explain. The tutor will prompt the student as needed.
	GUIDED PRACTICE—Monitor Student Work
5 Minutes	7. Student works problems independently while tutor watches and coaches. <ul style="list-style-type: none"> The student will be able to tell the tutor the number of bears in the cave while playing the game using different combinations of bears in and out of the cave.
	ASSESS—Evaluate Student Demonstration
	8. Student orally defines at least one Key Academic Mathematics Vocabulary word and skill or concept. <ul style="list-style-type: none"> Puts some cubes on the table and some in one hand. Ask, “What is a way that we can figure out how many bears are in the cave?” (Count on.)
	9. Student works a problem while explaining EVERY step orally. <ul style="list-style-type: none"> Take the cubes and put some on the table and some in one hand, making sure the student knows how many cubes are altogether. Have the student orally tell how many bears are outside and then correctly figure how many are on the inside.



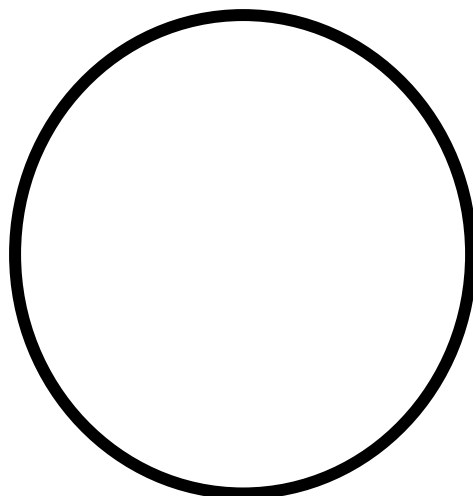
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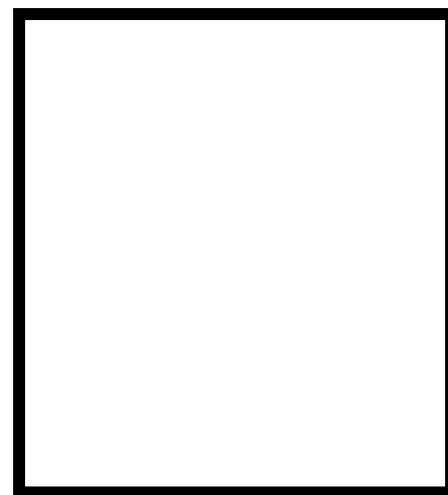
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Add another less for subtraction. This one focuses on addition.

Mathematics Tutoring Session Template

Before You Begin	Common Core Identification	
	Domain: Operations and Algebraic Thinking	Cluster: Add and subtract within 20.
	Standard 5: Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).	
	Key Academic Mathematics Vocabulary (3 or Fewer)	
	Counting on: A strategy used to add—e.g., $5 + \underline{\quad} = 7$. State the number 5, and each time you say the next number in sequence, raise a finger until you arrive at the sum. You should have raised two fingers, one for 6 and one for 7. Two fingers raised shows the answer of 2.	
	Notes and Materials	
2 Minutes	Notes and suggestions for an effective lesson: Students must physically move the counter on the number line and count. Students need to understand that they don't count the number that the counter is on, but do count the moves or hops.	
	Materials you will need:	
	<ul style="list-style-type: none"> Number line 0-25 (not included) Counter (frog, dinosaur, bear, or whatever is available) 	
	LAUNCH—Assess and Provide Background Knowledge	
8 Minutes	1. Connect to prior learning. Use a "hook" to gain the student's attention. Show the student a number line. Ask what he/she notices about it. (Numbers get bigger from right to left, spaces between the numbers, or numbers in order underneath the line.) Draw attention to the space between 0 and 1. Place a counter on 0, then hop to 1 while you say, "One hop." Say, "Let's try it again." Repeat the procedure.	
	2. Introduce and review Key Academic Mathematics Vocabulary. Say, "We have used our counter to count forward and backward on the number line. Today we are going to do some addition problems by counting on, which means counting forward to find the sum."	
	INSTRUCT—Provide Explicit, Interactive Instruction	
	3. State the objective. The student will understand the concept of counting on as a strategy to help add.	
	4/5. Provide explicit, step-by-step instructions and model.	
	<ul style="list-style-type: none"> Give the student a number line and counter. Have him/her start with the counter on 0 and hop to 1 while saying, "1 hop." Say, "Do you think we can count more than one hop?" Demonstrate starting at 0 and hopping to numbers less than 10, while saying with each 	

5 Minutes	<p>hop, “One hop, two hops, three hops,” etc. Give the student a chance to practice what you model after each exercise, always starting with 0, using number sentences such as $0 + 2$, $0 + 5$, $0 + 10$, etc.</p> <ul style="list-style-type: none"> • Say, “What might happen if we started on 1 instead of 0 and hopped 3?” Demonstrate, starting the counter on 1 and hopping three. Write $1 + 3$ on the board. The student should see the number 4 as the answer on the number line. Try this with several other number sentences, such as $1 + 4$, $1 + 7$, etc. (Write the number sentence on the board so the student begins to make the connection between hops on a number line and the number sentence.) • Say, “Let’s start with another number. How about 4? Place your counter on 4 and let’s hop 2.” Demonstrate and ask the student what the answer will be. Point out that the counter is now on 6, and 6 is the answer. Write the number sentence on the board: $4 + 2 = 6$. Continue in this manner with other numbers less than 6 than can be added to 4.
	<p>6. Check for understanding (work problem with student).</p> <ul style="list-style-type: none"> • Say, “What are you noticing about the number sentence and the hops on the number line?” The student should be able to say that the first number (addend) in the number sentence tells us where we begin on the number line and the second number (addend) tells us how many hops we have to take.
	<p>GUIDED PRACTICE—Monitor Student Work</p>
	<p>7. Student works problems independently while tutor watches and coaches.</p> <p>Tutor can write or orally give the student problems to solve by giving the larger number (addend) and then either a 1, 2, or 3 to count on.</p>
5 Minutes	<p>ASSESS—Evaluate Student Demonstration</p>
	<p>8. Student orally defines at least one Key Academic Mathematics Vocabulary word and skill or concept.</p> <p>Tutor asks the student to explain what <i>counting on</i> means. The student should respond that it means starting at a number and counting the hops. The number where the counter lands after the correct number of hops is the sum of the problem.</p>
	<p>9. Student works a problem while explaining EVERY step orally.</p> <p>The student is given the problem $6 + 3 = ?$ The student places the counter on 6, then explains that the counter must make 3 hops. It lands on the number 9, so $6 + 3 = 9$.</p>

Number Line 0-25

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
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This lesson only addresses making ten. More lessons needed for this standard.

Mathematics Tutoring Session Template

Before You Begin	Common Core Identification	
	Domain: Operations and Algebraic Thinking	Cluster: Add and subtract within 20.
	Standard 6: Add and subtract within 20 , demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).	
	Key Academic Mathematics Vocabulary (3 or Fewer)	
	Making ten: Using two addends that, when added together, gives a sum of ten.	
	Notes and Materials	
	Notes and suggestions for an effective lesson: <ul style="list-style-type: none">Cut out the Making Tens Cards beforehand.	
	Materials you will need: <ul style="list-style-type: none">10 two-sided counters10 Popsicle sticksMaking Ten Cards (2 pages)	
2 Minutes	LAUNCH—Assess and Provide Background Knowledge	
	1. Connect to prior learning. Use a "hook" to gain the student's attention. Hold up 10 Popsicle sticks with 5 in each hand, and say, "I have 5 Popsicle sticks in one hand and 5 Popsicle sticks in the other hand. How many Popsicle sticks do I have?" The student should say 10. Ask him/her to tell you another way you could have ten sticks, but not with 5 in each hand. Demonstrate.	
	2. Introduce and review Key Academic Mathematics Vocabulary. Say, "We will be making number combinations of ten today. That means that the two numbers that we choose should always make ten, or add up to ten. We call that making ten ."	
8 Minutes	INSTRUCT—Provide Explicit, Interactive Instruction	
	3. State the objective. <ul style="list-style-type: none">Students will make addition problems using two addends that have a sum of 10.	
	4/5. Provide explicit, step-by-step instructions and model. <ul style="list-style-type: none">Place 5 counters on the table and say, "How many counters are on the table?" (5) Place 5 more counters on the table with the other color showing and say, "How many counters did I place on the table this time?" (5) Say, "And what is $5 + 5$?" (10)Remove the counters, place 4 of one color and 6 of the other color, and say, "What is $4 + 6$?" (10) Then ask the students, "What other combination of counters could I use that would make 10?" Have the students come up with other combinations that have a sum 10.Take out the Making Ten Cards. Model using the cards to make sums of ten.Have the student pick up two other cards that make ten, and continue until the student has found all the combinations that will give a sum of 10. Then play the card game.Lay out five of the Making Ten Cards so the student can see them.Make sure there are two sets of cards that can go together to make ten.Say, "I am going to look at my cards and see if I can put any two cards together to make ten."Pick up two cards that do not make ten and add them together, then say, "No, these two numbers do not make ten."Pick up two cards that do make ten and add them together, then say, "Yes, these two numbers make	

5 Minutes	<p>ten!"</p> <ul style="list-style-type: none"> Set the cards aside.
	<p>6. Check for understanding (work problem with student).</p> <ul style="list-style-type: none"> After the student has found the various combinations, mix those cards and put down some other cards. Ask the student to find two cards that will make a sum of 10.
	<p>GUIDED PRACTICE—Monitor Student Work</p>
5 Minutes	<p>7. Student works problems independently while tutor watches and coaches.</p> <ul style="list-style-type: none"> Tutor and student both receive 5 cards, leaving the other cards in a pile between them. Do not show the other player your cards. First player will look at the cards in his/her hand to see if he/she has one way to make ten using two cards. If he/she does, he/she will lay down the pair of cards, then draw two more cards from the pile. Second player will do the same. If a player does not have a pair of cards to make ten, he/she loses a turn and will draw another card on his/her next turn. Play will continue until there are no more ways to make ten. The player with the most ways to make ten is the winner.
	<p>ASSESS—Evaluate Student Demonstration</p>
	<p>8. Student orally defines at least one Key Academic Mathematics Vocabulary word and skill or concept.</p> <ul style="list-style-type: none"> Give the student a number between 0 and 9 and ask what he/she would need to add to it in order to make ten (e.g., if you give the number 4, the student should tell you he/she needs 6 more to make 10). Ask, "What does it mean to make ten?"
	<p>9. Student works a problem while explaining EVERY step orally.</p> <ul style="list-style-type: none"> Have the cards 0 – 9 out on the table so the student can see the numbers. Give the student a card with the number 6. Ask him/her to pick the card that would be needed to make ten. (4) Ask the student why he/she chose that card.

0

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3

4

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Mathematics Tutoring Session Template

Before You Begin	Common Core Identification	
	Domain: Operations and Algebraic Thinking	Cluster: Add and subtract within 20.
	Standard: 7. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? $6 = 6$, $7 = 8 - 1$, $5 + 2 = 2 + 5$, $4 + 1 = 5 + 2$.	
	Key Academic Mathematics Vocabulary (3 or Fewer)	
	Equal: having the same amount or answer; Equation: mathematical statement containing an equal sign to show that two expressions are equal	
	Notes and Materials	
2 Minutes	Notes and suggestions for an effective lesson:	
	<ul style="list-style-type: none"> Cut out the Playing Cards beforehand. 	
	Materials you will need:	
	<ul style="list-style-type: none"> Playing Mat and Cards 	
8 Minutes	LAUNCH—Assess and Provide Background Knowledge	
	1. Connect to prior learning. Use a "hook" to gain the student's attention. <ul style="list-style-type: none"> Say, "What does it mean if I say something is 'true'?" Discuss answers, ensuring the student understands the meaning of "true" as defined below. Say, "What does it mean if I say something is 'false'?" Discuss answers, ensuring the student understands the meaning of "false" as defined below. 	
	2. Introduce and review Key Academic Mathematics Vocabulary. Equal – The same amount. True – Correct. False – Not correct. Equation – A number sentence with an equal sign. The amount on one side of the equal sign has the same value as the amount on the other side.	
	INSTRUCT—Provide Explicit, Interactive Instruction	
	3. State the objective. Say: "Today we will learn about the meaning of the equals sign and whether an equation is true or false."	
	4. Provide explicit, step-by-step instructions. <ul style="list-style-type: none"> Lay the Playing Cards face down on the table. Place the Playing Mat where the student can see it. Turn over one card and place it on the box that reads "1st Card." Turn over another card and place it on the box that reads "2nd Card." If either card is a number sentence, add the numbers together then determine whether the equation is true or false (e.g., if the first card says "6" and the second says "$2 + 7$," the equation is false because 6 is not equal to [the same as] 9, but if the first card says "6" and the second says "$5 + 1$," the equation is true because 6 is equal to [the same as] 6). If the equation is true, you may keep the two cards. If it is false, return the cards to the table. Repeat with two more cards. This time the student will help place the cards on the mat, add numbers together if necessary, and determine whether the equation is true or false. 	
	5. Model. <ul style="list-style-type: none"> Lay the Playing Cards face down on the table. Place the Playing Mat where the student can see it. Turn over one card and place it on the box that reads "1st Card." 	

5 Minutes	<ul style="list-style-type: none"> • Turn over another card and place it on the box that reads “2nd Card.” • If either card is a number sentence, add the numbers together then determine whether the equation is true or false (e.g., if the 1st card says “6” and the 2nd says “2 + 7,” the equation is false because 6 is not equal to [the same as] 9, but if the 1st card says “6” and the 2nd says “5 + 1,” the equation is true because 6 is equal to [the same as] 6).
	6. Check for understanding (work problem with student). <ul style="list-style-type: none"> • Using the cards, have the student work one round of the game, placing the cards correctly and telling whether the equation is true or false.
	GUIDED PRACTICE—Monitor Student Work
	7. Student works problems independently while tutor watches and coaches. <ul style="list-style-type: none"> • Repeat the steps beginning with step 4. This time the student will work independently to put the cards on the mat, add numbers together if necessary, and determine whether the equation is true or false. • If the equation is true, the student may keep the cards. If it is false, the student will return the cards to the table. • The student will continue until time is up.
5 Minutes	ASSESS—Evaluate Student Demonstration
	8. Student orally defines at least one Key Academic Mathematics Vocabulary word and skill or concept. <ul style="list-style-type: none"> • Ask the student to explain what “equal” means. • Ask the student to define “true” and “false.”
	9. Student works a problem while explaining EVERY step orally. <ul style="list-style-type: none"> • Using the cards, have the students work one round of the game placing the cards correctly and telling whether the equation is true or false. Have him/her explain why he/she placed each card where he/she did, and how he/she knew whether the equation was true or false.

Equals Mat

1 st Card	=	2 nd Card
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4

2 + 2

3 + 1

5

2 + 3

1 + 4

6

2 + 4

3 + 3

7

4 + 3

6 + 1



Mathematics Tutoring Session Template

Before You Begin	Common Core Identification	
	Domain: Operations and Algebraic Thinking	Cluster: Add and subtract within 20.
	Standard 8: Determine the unknown whole number in an addition or subtraction equation relating to three whole numbers. For example, determine the unknown number that makes the equation true in each of the following equations: $8 + ? = 11$, $5 = ? - 3$, $6 + 6 = ?$	
	Key Academic Mathematics Vocabulary (3 or Fewer)	
	Counting on: Starting with the largest addend, count forward the number of the other addend to find the sum (e.g., for $4 + 3 = ?$, count 4, then 1, 2, 3; the counter is now on the number 7, so the sum is 7).	
2 Minutes	Notes and Materials	
	Notes and suggestions for an effective lesson: The count on strategy works as follows: The student will look at the two addends (numbers to be added) and say the larger of the two addends out loud. They will start from the larger number, then count on using the number. (See the example in the launch.)	
	Materials you will need: <ul style="list-style-type: none">Number (0-10)/Dot Cards (1-3)	
	LAUNCH—Assess and Provide Background Knowledge	
	1. Connect to prior learning. Use a "hook" to gain the student's attention. <ul style="list-style-type: none">Say, "Let's start at seven and count on until we get to twenty; seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty."	
8 Minutes	2. Introduce and review Key Academic Mathematics Vocabulary. Count on – A way to add.	
	INSTRUCT—Provide Explicit, Interactive Instruction	
	3. State the objective. Say: "Today we are going to use the skill of counting on to add numbers."	
	4. Provide explicit, step-by-step instructions. <ul style="list-style-type: none">Place the Dot Cards in one pile and the Number Cards in another pile.Turn over one card from each pile.Explain to the student that you are going to start with the numeral shown on the number card, then count on the number of dots shown on the dot card (e.g., if the number card says "7" and the dot card has 3 dots, you will start with seven then point to each dot as you say "eight, nine, ten").Repeat with another card from each pile. Have the student count on with you.	
	5. Model. <ul style="list-style-type: none">Place the Dot Cards in one pile and the Number Cards in another pile.Turn over one card from each pile.Explain to the student that you are going to start with the numeral shown on the number card then count on the number of dots shown on the dot card (e.g., if the number card says "5" and the dot card has 2 dots, start with 5, then point to each dot as you say "six, seven, eight").	
Minu	6. Check for understanding (work problem with student). <ul style="list-style-type: none">Have the student turn over a card from each pile.Help the student start with the numeral shown on the number card, then count on the number of dots shown on the dot card.Repeat with two more cards, helping the student when necessary.	
	GUIDED PRACTICE—Monitor Student Work	

5 Minutes	7. Student works problems independently while tutor watches and coaches. <ul style="list-style-type: none"> • The student will repeat the steps from step 6 with little or no help. • Continue until time is up.
	ASSESS—Evaluate Student Demonstration
	8. Student orally defines at least one Key Academic Vocabulary word and skill or concept. <ul style="list-style-type: none"> • Ask the student to explain or demonstrate what it means to “count on.” He/she should be able to tell you that it means to start with a number and then count on the other number to find the sum.
	9. Student works a problem while explaining EVERY step orally. <ul style="list-style-type: none"> • The student is given a numeral card, then a dot card. The student must be able to say the numeral and then count the number of dots aloud and give the sum of the problem.

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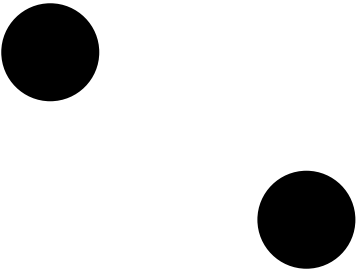
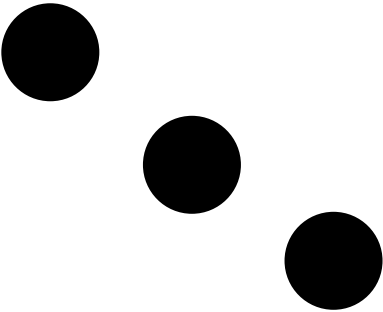
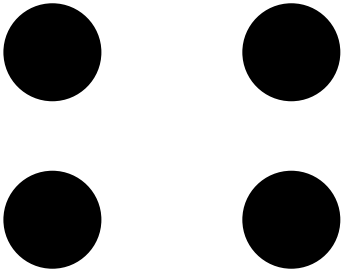
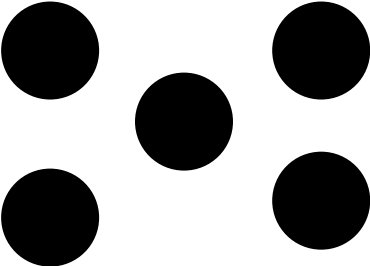
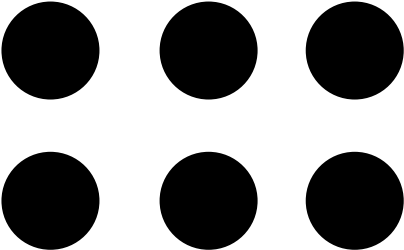
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Lesson 9 to be inserted when completed.



Mathematics Tutoring Session Template

Before You Begin	Common Core Identification
	Domain: Number and Operations in Base Ten Cluster: Understand place value.
	Standard 2: Understand that the two digits of a two-digit number represent amounts of tens and ones.
	Key Academic Mathematics Vocabulary (3 or Fewer)
2 Minutes	Ten(s) – A group/groups of ten ones. One(s) – A single unit(s) that cannot be grouped into a ten.
	Notes and Materials
	Notes and suggestions for an effective lesson: <ul style="list-style-type: none">Make sure that student reads the number correctly, builds the number, and tells how many tens and ones the number represents.
	Materials you will need: <ul style="list-style-type: none">Number line or hundreds boardNumber cards 0-9 (at least two sets)Place value matBase ten blocks, unifix cubes, or sticks that are bundled and some single sticks
8 Minutes	LAUNCH—Assess and Provide Background Knowledge
	1. Connect to prior learning. Use a "hook" to gain the student's attention. <ul style="list-style-type: none">Using a number line or hundreds board, have the students count the numbers. At a certain number, stop the student and ask how many “tens” and “ones” are in the number. Continue counting and stopping at certain numbers.
	2. Introduce and review Key Academic Mathematics Vocabulary. <ul style="list-style-type: none">Go back to the number line or hundreds board and point to a number. Have the student build the number with the blocks or sticks and tell you how many “tens” and “ones” he/she has. Ask, “How do you know which number is a ten and which number is a one?” (Ones are single and tens are in bundles.)
	INSTRUCT—Provide Explicit, Interactive Instruction
5 Minutes	3. State the objective. Student will be able to read, build, and identify a number by tens and ones.
	4/5. Provide explicit, step-by-step instructions and model. <ul style="list-style-type: none">Tutor completes steps 1 and 2.Tutor places number cards on the table in front of the student, face down. The student draws two cards and places them side by side to make a two-digit number.Tutor reads the number and then builds the number on the place value mat.The tutor then tells the student how many “tens” and “ones” are in the number.Tutor has student draw two cards and read the number, build the number, and tell the number of “tens” and “ones.”Play continues back and forth between tutor and student until all the cards have been used.
	6. Check for understanding (work problem with student). <ul style="list-style-type: none">Tutor observes, when it is the student’s turn, that he/she reads the number correctly, can build the model, and can tell the number of “tens” and “ones.”
	GUIDED PRACTICE—Monitor Student Work
	7. Student works problems independently while tutor watches and coaches. <ul style="list-style-type: none">Tutor observes, when it is the student’s turn, that he/she reads the number correctly, can build the model, and can tell the number of “tens” and “ones.”

5 Minutes	
	ASSESS—Evaluate Student Demonstration
	<p>8. Student orally defines at least one Key Academic Vocabulary word and skill or concept.</p> <ul style="list-style-type: none">• When game is completed, the tutor draws two cards and makes a two-digit number. The tutor then asks, “Which digit is in the ‘tens’ place? How many ‘tens’ are in that number? Which digit is in the ‘ones’ place? How many ‘ones’ are in that number?” <p>9. Student works a problem while explaining EVERY step orally.</p> <ul style="list-style-type: none">• The tutor shuffles the cards when the game is finished.• The student draws two cards and places them on the table as a two-digit number.• The student reads the number, builds the number, and tells the number of “tens” and “ones.”

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

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4	5	6	7
8	9		

tens

ones

I have ____ tens and ____ ones.

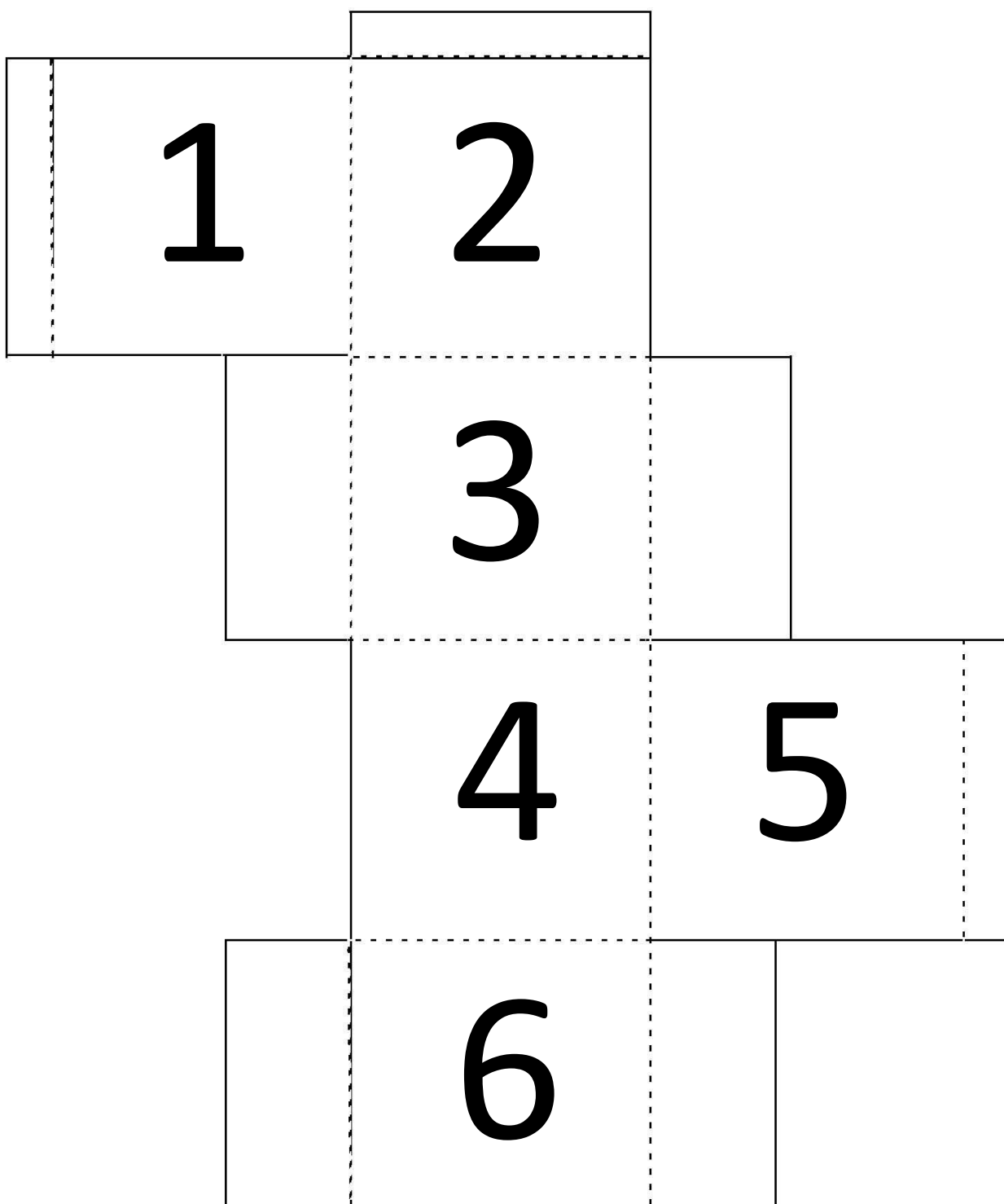
I have ____ total.



Mathematics Tutoring Session Template

Before You Begin	Common Core Identification	
	Domain: Number and Operations in Base Ten	Cluster: Understand place value.
	Standard 2: Understand that the two digits of a two-digit number represent amounts of tens and ones. 2a: Ten can be thought of as a bundle of ten ones, called a “ten.”	
	Key Academic Mathematics Vocabulary (3 or Fewer)	
	Ten(s) – A group/groups of ten ones.	
2 Minutes	Notes and Materials	
	Notes and suggestions for an effective lesson: Use correct vocabulary, calling ten ones a “ten” and several groups of ten “tens.”	
	Materials you will need: <ul style="list-style-type: none"> • 50 single objects per player (e.g., Popsicle sticks, straws, toothpicks) • Number cube with numbers 1 – 6 • 5 cups per player 	
	LAUNCH—Assess and Provide Background Knowledge	
	1. Connect to prior learning. Use a "hook" to gain the student's attention. <ul style="list-style-type: none"> • Say, “Let’s count to 10 together.” • Ask the student to show ten objects. 	
8 Minutes	2. Introduce and review Key Academic Mathematics Vocabulary. Ten(s) – A group/ groups of ten ones.	
	INSTRUCT—Provide Explicit, Interactive Instruction	
	3. State the objective. <ul style="list-style-type: none"> • Student will be able to make bundles of ten. 	
	4/5. Provide explicit, step-by-step instructions and model. <ul style="list-style-type: none"> • Model making a group of ten and have the student do the same. • Both student and tutor will be given 5 cups and 50 objects for counting. • Roll the number cube and pull out objects to match the number shown on the cube (e.g., if a 5 is rolled, put down 5 Popsicle sticks). • The student will do the same, with any help necessary from the tutor. • Play will continue in the same manner. • Once either student or tutor reaches ten objects, he/she will “bundle” them and place them in one of the cups. • If there are leftover objects after making the bundle of ten, leave them out and continue adding to them as the game progresses. • Emphasize that the objects in the cup now represent a “ten.” The next time a group of ten objects has been collected, they will be bundled and placed in a different cup. Have the student say the total number of objects he/she now has. • After the tutor and student have each rolled the number cube 8 times, the player with more bundles of ten is the winner. Have the student count by tens and ones to state the number of objects each player has at the end of game. 	
	6. Check for understanding (work problem with student). <ul style="list-style-type: none"> • Watch as the student counts the objects and then makes a bundle when he/she has collected 10 objects. 	

5 Minutes	GUIDED PRACTICE—Monitor Student Work
	7. Student works problems independently while tutor watches and coaches. <ul style="list-style-type: none"> Play the game again, this time allowing the student to work more independently on determining when to bundle the objects.
	ASSESS—Evaluate Student Demonstration
5 Minutes	8. Student orally defines at least one Key Academic Vocabulary word and skill or concept. <ul style="list-style-type: none"> Ask the student to explain what a “ten” is and where tens come from.
	9. Student works a problem while explaining EVERY step orally. <ul style="list-style-type: none"> The student will roll the number cube and take objects to match the number cube. He/she will continue rolling and making bundles until he/she has 2 bundles. When the student reaches the ten and bundles, he/she orally explains why he/she bundles the objects. After that, one bundle is made and the number cube is rolled. The student will also explain when he/s can’t make a bundle.



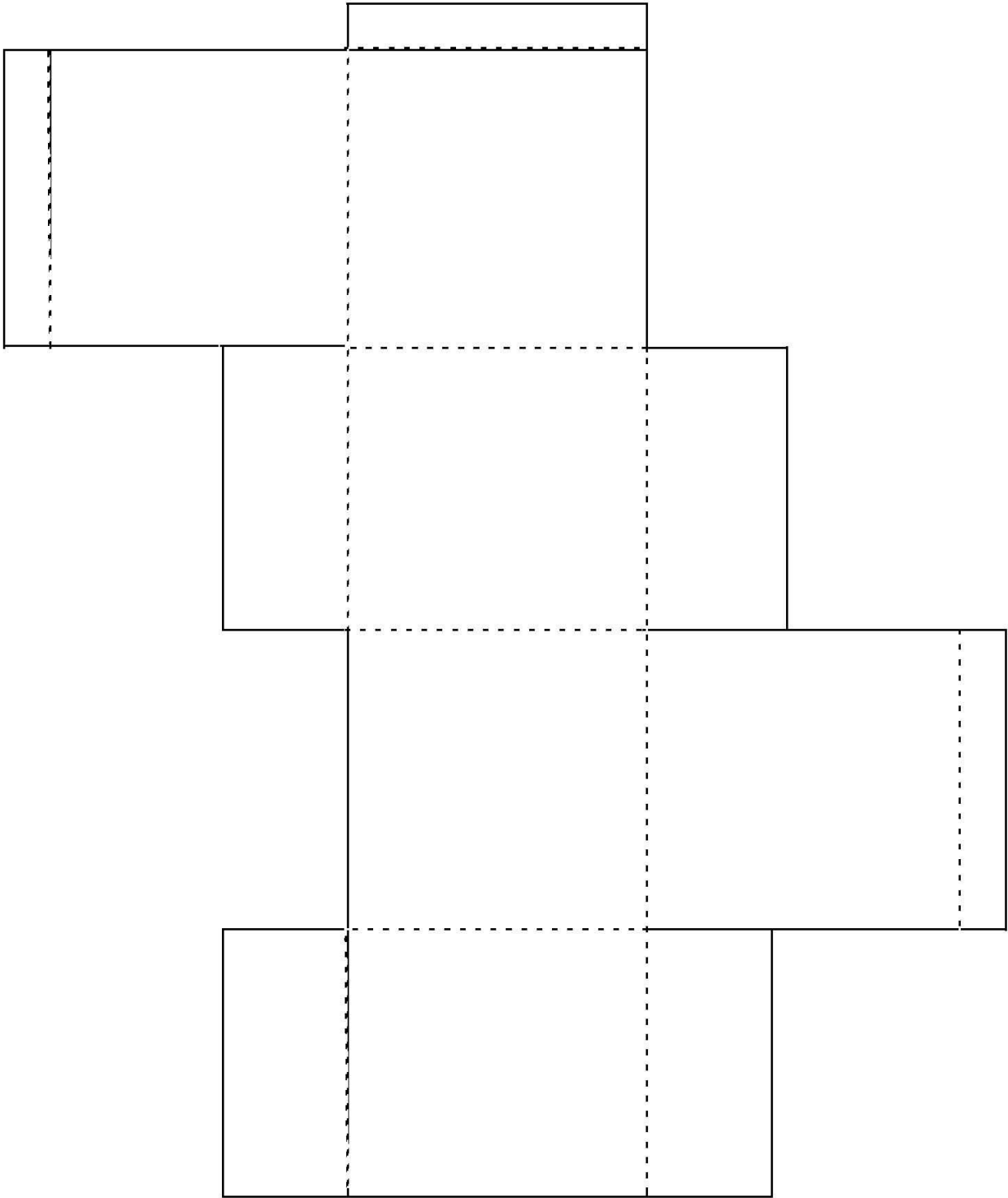


Mathematics Tutoring Session Template

Before You Begin	Common Core Identification	
	Domain: Number and Operations in Base Ten	Cluster: Understand place value.
	Standard 2: Understand that the two digits of a two-digit number represent amounts of tens and ones. 2b: The numbers from 11 to 19 are composed of a ten and 1, 2, 3, 4, 5, 6, 7, 8, or 9 ones.	
	Key Academic Mathematics Vocabulary (3 or Fewer)	
	Ten(s) – A group/groups of ten ones. One(s) – A single unit that cannot be grouped into a ten.	
2 Minutes	Notes and Materials	
	Notes and suggestions for an effective lesson: Use correct vocabulary, calling single objects “ones,” ten ones a “ten,” and several groups of ten “tens.”	
	Materials you will need: <ul style="list-style-type: none">• Number cube with numbers 1 – 6• 25 unifix cubes per player• Place Value Mat	
	LAUNCH—Assess and Provide Background Knowledge	
	1. Connect to prior learning. Use a "hook" to gain the student's attention. <ul style="list-style-type: none">• Say, “Let’s count to one hundred by tens!”	
8 Minutes	2. Introduce and review Key Academic Mathematics Vocabulary. Place one unifix cube on the table and say “one.” Put another unifix cube on the table and say “two.” Continue until there are ten unifix cubes on the table. Then snap them together, show that there is now a bundle that has ten “ones,” and tell the students that now you have a ten. Continue putting single unifix cubes on the table and saying the number until you can make another bundle. Show the student that there are now two bundles of ten.	
	INSTRUCT—Provide Explicit, Interactive Instruction	
	3. State the objective. <ul style="list-style-type: none">• The student will be able to identify numbers in terms of tens and ones.	
	4/5. Provide explicit, step-by-step instructions and model. <ul style="list-style-type: none">• Demonstrate vocabulary, and model building the numbers 1 – 20.• Have the Place Value Mat on the table; roll the number cube and place that number of unifix cubes in the ones column on the mat.• Say the sentence at the bottom of the mat using the correct numbers (e.g., “I have 0 tens and 5 ones. I have 5”).• Roll the number cube again, adding the corresponding number of unifix cubes onto the ones column on the mat.• Ask the student to help count the ones. If there are 10 or more unifix cubes, ask the student what he/she thinks should be done.• Guide the student toward the correct answer (to put 10 of the cubes in the tens column).• Repeat the sentence at the bottom of the mat using the new numbers (e.g., “I have 1 ten and 2 ones. I have 12”).• Once the number 20 is reached, the game is over.	
	6. Check for understanding (work problem with student). Watch the student as he/she builds the numbers and places them in the correct column on the place value mat and say the amount correctly in the number of tens and ones.	

5 Minutes	
	GUIDED PRACTICE—Monitor Student Work
	7. Student works problems independently while tutor watches and coaches. <ul style="list-style-type: none">• The student has the mat and rolls the number cube, placing the correct number of unifix cubes in the appropriate spots on the mat.• Make sure the student says the sentence after each turn.• Help student move the ones to the tens column when necessary.• Once 20 is reached, the game is over.
5 Minutes	ASSESS—Evaluate Student Demonstration
	8. Student orally defines at least one Key Academic Vocabulary word and skill or concept. <ul style="list-style-type: none">• Ask the student to explain the difference between a “ten” and a “one.”
	9. Student works a problem while explaining EVERY step orally. <ul style="list-style-type: none">• The student is given the mat and unifix cubes. The tutor gives the student a number, and the student builds it on the mat and then gives the correct amount of “tens” and “ones.”

See cube from Lesson 11



tens	ones

I have ____ tens and ____ ones.

I have _____ total.



Mathematics Tutoring Session Template

Before You Begin	Common Core Identification	
	Domain: Number and Operations in Base Ten	Cluster: Understand place value.
	Standard 2: Understand that the two digits of a two-digit number represent amounts of tens and ones. 2c: The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to 1, 2, 3, 4, 5, 6, 7, 8, or 9 tens (and 0 ones).	
	Key Academic Mathematics Vocabulary (3 or Fewer)	
	Ten(s) – A group/groups of ten ones. One(s) – A single unit that cannot be grouped into a ten.	
2 Minutes	Notes and Materials	
	Notes and suggestions for an effective lesson: <ul style="list-style-type: none">Place Value Flip Cards (fold them beforehand).Add the 0's to the Place Value Flip Cards beforehand.Have bundles of 3 tens made.Make sure that the correct vocabulary is used during the lesson.	
	Materials you will need: <ul style="list-style-type: none">Place Value Flip Cards	
	LAUNCH—Assess and Provide Background Knowledge	
	1. Connect to prior learning. Use a "hook" to gain the student's attention. <ul style="list-style-type: none">Say, "Let's count to one hundred by tens as fast as we can!"	
8 Minutes	2. Introduce and review Key Academic Mathematics Vocabulary. Place a bundle of tens on the table. Ask the students how many tens there are on the table (1 ten). Add another bundle and again ask how many there are (2 tens). Then add the third bundle.	
	INSTRUCT—Provide Explicit, Interactive Instruction	
	3. State the objective. <ul style="list-style-type: none">Students will be able to identify the numbers 10 to 90 in terms of tens.	
	4. Provide explicit, step-by-step instructions. <ul style="list-style-type: none">Students will identify the bundles correctly by the number of tens.Hold up one pre-folded Place Value Flip Card.Ask the student what number is shown on the card (e.g., 30, 40, 50, etc.).Say, "I think that 50" (or whatever number is shown on the card) "is the same as 5 tens and 0 ones."Open the Flip Card to check whether or not you are correct.Show the student the inside of the Flip Card as you read the phrase out loud (e.g., "5 tens and 0 ones").Repeat with several Flip Cards, allowing the student to say the number on the card, determine the number of tens and ones, and check his/her answer by opening the Flip Card.	
	5. Model. <ul style="list-style-type: none">Hold up one pre-folded Place Value Flip Card.Ask the student what number is shown on the card (e.g., 30, 40, 50, etc.).Say, "I think that 50" (or whatever number is shown on the card) "is the same as 5 tens and 0 ones."Open the Flip Card to check whether or not you are correct.Continue with the activity.	
	6. Check for understanding (work problem with student). <ul style="list-style-type: none">Students are able to give the correct response of the number of tens and ones when shown the number on the flip card.	

5 Minutes	
	GUIDED PRACTICE—Monitor Student Work
	7. Student works problems independently while tutor watches and coaches. <ul style="list-style-type: none">• Gather the Flip Cards together.• Tell the student he/she will have one minute to do as many Flip Cards as he/she can by first stating the number on the front, then stating the tens and ones phrase.
5 Minutes	ASSESS—Evaluate Student Demonstration
	8. Student orally defines at least one Key Academic Vocabulary word and skill or concept. <ul style="list-style-type: none">• Ask the student to explain what a “ten” is.
	9. Student works a problem while explaining EVERY step orally. <ul style="list-style-type: none">• Show the student a flip card and ask the student to explain how many “tens” and “ones” are in the number. Ask the student how he/she knows which number is a ten and which number is a one.

Instructions:

Print off the worksheet. Cut out cards. Fold on the dotted line so it covers the word ten(s) and O ones. Write a "0" on the flap so it is next to the number printed on the card (see example)

1 ten 0 ones

1 0

1 ten 0 ones

2 tens 0 ones

6 tens 0 ones

3 tens 0 ones

7 tens 0 ones

4 tens 0 ones

8 tens 0 ones

5 tens 0 ones

9 tens 0 ones



Mathematics Tutoring Session Template

Before You Begin	Common Core Identification	
	Domain: Number and Operations in Base Ten	Cluster: Understand place value.
	Standard 3: Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$. (Lesson focuses on single-digit and greater than.)	
	Key Academic Mathematics Vocabulary (3 or Fewer)	
	<p>Greater than – Shows a relationship between two numbers where the first number is larger than the second number.</p> <p>Compare – Looking at different numbers to decide whether one number is larger than, smaller than, or the same as (equal to) the other number.</p>	
2 Minutes	Notes and Materials	
	Notes and suggestions for an effective lesson: <ul style="list-style-type: none"> Number Cards (cut out single digit number cards beforehand). 	
	Materials you will need: <ul style="list-style-type: none"> Number line Single-digit number cards Sentence card 	
	LAUNCH—Assess and Provide Background Knowledge	
	1. Connect to prior learning. Use a "hook" to gain the student's attention. <ul style="list-style-type: none"> Pull out 2 single-digit number cards. Say, "We are going to compare these two numbers. Which do you think is the greater number?" If the student cannot answer, give an explanation and repeat with two more numbers. 	
8 Minutes	2. Introduce and review Key Academic Mathematics Vocabulary. <ul style="list-style-type: none"> Give the student a number line. Say a number, and have the student place his/her finger on that number. Give the student another number. Have the student compare the numbers and tell whether the second number is greater than or less than the first number. 	
	INSTRUCT—Provide Explicit, Interactive Instruction	
	3. State the objective. <ul style="list-style-type: none"> Students will compare numbers to determine which is greater. 	
	4. Provide explicit, step-by-step instructions. <ul style="list-style-type: none"> Use the number line to help the student recognize whether a number is greater than or less than another number. Place the number cards face down in a pile. Both tutor and student turn over a card from the pile. Say the sentence from the sentence card using the numbers that are on the cards (e.g., "I have 8. You have 2. Eight is greater than 2"). The person with the greater number gets to keep both cards. Continue play until all numbers have been taken from the pile. Allow the student to use a number line. 	
	5. Model. <ul style="list-style-type: none"> Place the number cards face down in a pile. Both tutor and student turn over a card from the pile. Say the sentence from the sentence card using the numbers that are on the cards (e.g., "I have 8. You have 2. Eight is greater than 2"). Chose two more cards and have the student say the sentence. Have the student put his/her finger on 8 on the number line and show where the 2 is located. Then 	

5 Minutes	have him/her explain how the number line will help him/her to know which number is greater.
	6. Check for understanding (work problem with student). <ul style="list-style-type: none"> Observe the student while playing the game (#4) to see that the student is able to say the correct number sentence.
	GUIDED PRACTICE—Monitor Student Work
	7. Student works problems independently while tutor watches and coaches. <ul style="list-style-type: none"> Mix up the number cards and place them back in the pile face down. Repeat the process from step 4, but this time have the student say the sentence using the numbers that have been turned over.
	ASSESS—Evaluate Student Demonstration
5 Minutes	8. Student orally defines at least one Key Academic Vocabulary word and skill or concept. <ul style="list-style-type: none"> Give the student two cards and ask him/her to say the correct number sentence. (It must be a “greater than” situation.) Ask him/her, “What does it mean when we say ‘greater than’?”
	9. Student works a problem while explaining EVERY step orally. <ul style="list-style-type: none"> Gives the student 2 number cards and ask him/her to tell the correct number sentence and explain how he/she knows. Allow the student to refer to the number line if necessary.

Number Line

1

2

3

4

5

6

7

8

9

0

I have _____ you have _____.

_____ is greater than _____.

I have _____ you have _____.

_____ is less than _____.

I have _____ you have _____.

_____ is equal to _____.



Mathematics Tutoring Session Template

Before You Begin	Common Core Identification	
	Domain: Number and Operations in Base Ten	Cluster: Use place value understanding and properties of operations to add and subtract.
	Standard 4: Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, we add tens and tens, ones and ones; and sometimes it is necessary to compose a ten.	
	Key Academic Mathematics Vocabulary (3 or Fewer)	
	Ten(s) – A group/groups of ten ones. One(s) – A single unit that cannot be grouped into a ten. Composing a ten – Putting ones (single units) together to make a ten.	
2 Minutes	Notes and Materials	
	Notes and suggestions for an effective lesson: <ul style="list-style-type: none">Have the student build the numbers and then combine to show the sum.Help him/her to see that 10 units are traded for a rod.	
	Materials you will need: <ul style="list-style-type: none">Base ten blocks (rods and units)Place Value Mat Set of two-digit number cards and/or number cards	
	LAUNCH—Assess and Provide Background Knowledge	
	1. Connect to prior learning. Use a "hook" to gain the student's attention. <ul style="list-style-type: none">Give the student a place value mat and base ten blocks.Place the deck of regular number cards face down on the table.Have the student draw a card and build the number on the place value mat with the base ten blocks.When the number from the first card has been built, the child draws another card.Student places the blocks representing that number on the place value mat.Asks the student to add all the cubes together to find the total. (If there are enough unit cubes to make a ten, trade the ten units cubes for a rod.)	
8 Minutes	2. Introduce and review Key Academic Mathematics Vocabulary. <ul style="list-style-type: none">Using the base ten blocks from the sum of the launch activity, have the student explain how many tens he/she has and how many ones. Ask him/her how he/she made the group of "tens." Explain that when he/she has ten units, he/she composes the units into a group of ten.	
	INSTRUCT—Provide Explicit, Interactive Instruction	
	3. State the objective. Say, "Today we will be able to add a two-digit number and a one-digit number to find the sum, realizing that it may be necessary to compose a ten."	
8 Minutes	4/5. Provide explicit step-by-step instructions. Model. <ul style="list-style-type: none">Do the launch and vocabulary activity.Shuffle the number cards and places them face down on the table.Draw one card from the deck.Have the student build that number on the place value mat with assistance.Draws another card and have the student add blocks to the place value mat for that number.Assist the student in counting the unit blocks and trading them for a rod.Repeat the process with the student, pulling the cards and making the correct sum by composing tens.Draws cards to create a two digit number. Have the student model the number on mat.Have the student pull a number card to see which number to add.Have the student add the correct blocks and compose a ten if needed.	

5 Minutes	<ul style="list-style-type: none"> • The student will give the sum of the problem. • Have the student put those cards aside and clear off the place value mat. • The student then repeats the process to find a new sum from new cards.
	6. Check for understanding (work problem with student). <ul style="list-style-type: none"> • The student works a problem, with the tutor giving assistance as needed.
	GUIDED PRACTICE—Monitor Student Work
	7. Student works problems independently while tutor watches and coaches. <ul style="list-style-type: none"> • The student is able to pull cards, build the numbers, and compose tens if needed, and can give the tutor the correct sum.
5 Minutes	ASSESS—Evaluate Student Demonstration
	8. Student orally defines at least one Key Academic Vocabulary word and skill or concept. <ul style="list-style-type: none"> • The student builds a two-digit number on his/her place value mat using base ten blocks. • The student is able to tell the tutor which column is the tens and how many tens he/she has, and which column is the ones and how many ones he/she has. • Give another number to add that will require the student to compose a ten. • Make sure that the student is able to tell why he/she traded the units for a rod.
	9. Student works a problem while explaining EVERY step orally. <ul style="list-style-type: none"> • The student is able to pull cards, build the numbers while explaining which number is a ten and which is a one, compose tens if needed, and give the tutor the correct sum.

tens

ones

I have ____ tens and ____ ones.

I have ____ total.



Mathematics Tutoring Session Template

Before You Begin	Common Core Identification	
	Domain: Number and Operations in Base Ten	Cluster: Use place value understanding and properties of operations to add and subtract.
	Standard 5: Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.	
	Key Academic Mathematics Vocabulary (3 or Fewer)	
	More than – A larger number than the original number. Less than – A smaller number than the original number.	
2 Minutes	Notes and Materials	
	Notes and suggestions for an effective lesson: <ul style="list-style-type: none">Cut out the Ten More/Ten Less Cards beforehand.	
	Materials you will need: <ul style="list-style-type: none">Hundreds chart per studentTen More/Ten Less Game Board per studentTen More/Ten Less CardsChips (not included)	
	LAUNCH—Assess and Provide Background Knowledge	
	1. Connect to prior learning. Use a "hook" to gain the student's attention. <ul style="list-style-type: none">Point to a number on the hundreds chart (e.g., 26).Ask the student to help you figure out what ten more than the number would be by counting up on the hundreds chart (e.g., 27, 28, 29, 30, 31, 32, 33, 34, 35, 36).Ask the student to help you figure out what ten less than the number would be by counting back on the hundreds chart (e.g., 25, 24, 23, 22, 21, 20, 19, 18, 17, 16).	
8 Minutes	2. Introduce and review Key Academic Mathematics Vocabulary. <ul style="list-style-type: none">Using the hundreds chart, give the student a number and ask him/her what is ten more. (Example: For 24, the student response should be 34). Give the student another number and ask him/her what is ten less. (Example: For 54, the student response should be 44.)	
	INSTRUCT—Provide Explicit, Interactive Instruction	
	3. State the objective. Say, "Today we will find ten more and ten less than a given number."	
	4/5. Provide explicit, step-by-step instructions. <ul style="list-style-type: none">Choose a number on the hundreds chart.Ask the student to help you count up and down on the hundreds chart to find 10 more and 10 less than the number.Ask the student if he/she notices anything about where he/she lands after counting (i.e., that 10 more is just below the number and 10 less is just above).If he/she does not come to the conclusion on his/her own, guide him/her toward the correct answer.Emphasize the concept by choosing another number on the hundreds chart and asking the student to quickly tell you what ten more and ten less would be.Repeat with one more number.	
	6. Check for understanding (work problem with student). <ul style="list-style-type: none">Choose another number on the hundreds chart.Ask the student to find 10 more than the number. The goal is to have the student jump straight to the number without having to count each space.Ask the student to find 10 less than the number. The goal is to have the student jump straight to the number without having to count each space.	

5 Minutes	<ul style="list-style-type: none"> Ask the student if he/she notices anything about where he/she lands after counting (i.e., that 10 more is just below the number and 10 less is just above).
	GUIDED PRACTICE—Monitor Student Work
	<p>7. Student works problems independently while tutor watches and coaches.</p> <ul style="list-style-type: none"> Both student and tutor will need a Ten More/Ten Less Game Board and a handful of chips. Place the Ten More/Ten Less Cards face down in a pile. Turn one card over and read it out loud (e.g., “Ten more than 14”). Players will figure out the answer using the hundreds chart (e.g., 24), and place a chip on the corresponding number on the Ten More/Ten Less Game Board. Repeat the steps with another Ten More/Ten Less Card. Play continues until one player has 4 chips in a row on the game board. Play again, this time encouraging the student to figure out the numbers without using the hundreds chart.
5 Minutes	ASSESS—Evaluate Student Demonstration
	<p>8. Student orally defines at least one Key Academic Vocabulary word and skill or concept.</p> <ul style="list-style-type: none"> Pull several cards from the pile and ask the student to give the answer orally. Sometimes ask for 10 more, sometimes for 10 less.
	<p>9. Student works a problem while explaining EVERY step orally.</p> <ul style="list-style-type: none"> Pull a card and ask the student to tell what number would be 10 more and also what number would be 10 less.

Hundreds Chart

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

10 more than 14	10 less than 34
10 more than 8	10 less than 28
10 more than 42	10 less than 62
10 more than 65	10 less than 85
10 more than 26	10 less than 46
10 more than 77	10 less than 13
10 more than 31	10 less than 97
10 more than 85	10 less than 51
10 more than 59	10 less than 79
10 more than 6	10 less than 17
10 more than 39	10 less than 26
10 more than 44	10 less than 59
10 more than 71	10 less than 64
10 more than 82	10 less than 91

10 more / 10 less game board

24	18	52	75
36	3	87	41
95	69	7	16
49	54	81	92

10 more / 10 less game board

36	41	87	3
16	7	69	95
52	18	24	75
49	92	54	81

10 more / 10 less game board

92	41	16	75
24	36	95	49
3	69	54	18
54	24	69	87

10 more / 10 less game board

7	41	52	92
24	3	95	54
18	36	69	49
75	87	16	87



Mathematics Tutoring Session Template

Before You Begin	Common Core Identification	
	Domain: Number and Operations in Base Ten	Cluster: Use place value understanding and properties of operations to add and subtract.
	Standard 6: Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.	
	Key Academic Mathematics Vocabulary (3 or Fewer)	
	Subtract – To take one quantity away from another.	
2 Minutes	Notes and Materials	
	Notes and suggestions for an effective lesson: <ul style="list-style-type: none"> Cut out the Ten More/Ten Less Cards beforehand. 	
	Materials you will need: <ul style="list-style-type: none"> Hundreds chart per student Subtracting Tens Game Board per student Subtracting Tens Number Cards Chips 	
	LAUNCH—Assess and Provide Background Knowledge	
	1. Connect to prior learning. Use a "hook" to gain the student's attention. <ul style="list-style-type: none"> Point to the number 80 on the hundreds chart. Ask the student to help you figure out where you would end up on the hundreds chart if you added 10 to 80. 	
8 Minutes	2. Introduce and review Key Academic Mathematics Vocabulary. <ul style="list-style-type: none"> Point to the number 60 on the hundreds chart. Ask the student to help you figure out where you would end up on the hundreds chart if you subtracted 10 from 80. Discuss. 	
	INSTRUCT—Provide Explicit, Interactive Instruction	
	3. State the objective. Say, "Today we will subtract multiples of ten."	
	4. Provide explicit, step-by-step instructions. <ul style="list-style-type: none"> Point to the number 60 on the hundreds chart. Ask the student to help you subtract 20 from 60 by moving up the hundreds chart (60, 50, 40). Point to the number 50 on the hundreds chart. Ask the student to help you subtract 30 from 50 by moving up the hundreds chart (50, 40, 30). Choose another multiple of ten and ask the student to subtract 20 and find it on the hundreds chart (e.g., ask him/her to find 60 and subtract 20 from it). Emphasize the concept by subtracting with other multiples of 10. 	
	5. Model. <ul style="list-style-type: none"> Point to the number 60 on the hundreds chart. Ask the student to help you subtract 20 from 60 by moving up the hundreds chart (60, 50, 40). 	

5 Minutes	<p>6. Check for understanding (work problem with student).</p> <ul style="list-style-type: none"> Continue giving the student a number and ask them to subtract in a multiple of ten. Make sure they are doing it correctly and give the correct response.
	<p>GUIDED PRACTICE—Monitor Student Work</p> <p>7. Student works problems independently while tutor watches and coaches.</p> <ul style="list-style-type: none"> Both student and tutor will need a Subtracting Tens Game Board and a handful of chips. Place the Subtracting Tens Number Cards face down in a pile. Turn over 2 cards from the pile and say the numbers (e.g., 70 and 40). Explain to the student that you will subtract the smaller number from the larger ($70 - 40$). Encourage the student to use the hundreds chart to help determine the answer (30). The players find the answer on their Subtracting Tens Game Board and cover it with a chip. Repeat the steps with two more Subtracting Tens Number Cards. Play continues until one player has 4 chips in a row on the game board. Play again, this time encouraging the student to figure out the numbers without using the hundreds chart.
	<p>ASSESS—Evaluate Student Demonstration</p> <p>8. Student orally defines at least one Key Academic Vocabulary word and skill or concept.</p> <ul style="list-style-type: none"> Pull two cards from the pile and ask the student to subtract the smaller number from the larger. Repeat.
5 Minutes	<p>9. Student works a problem while explaining EVERY step orally.</p> <ul style="list-style-type: none"> Pull one card from the pile and ask the student to subtract a multiple of ten from the number on the card.

Hundreds Chart

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Subtracting Tens Number Cards

0

0

10

10

20

20

30

30

40

40

50

50

60

60

70

70

80	80	90	90
----	----	----	----

Subtracting Tens Game Board

20	10	50	60
30	0	80	40
60	70	0	10
40	50	30	20

Subtracting Tens Game Board

20	60	40	10
30	0	50	80
70	10	30	40
20	60	0	50

Subtracting Tens Game Board

20	40	70	10
0	50	40	60
60	20	0	30
30	50	80	10

Subtracting Tens Game Board

10	50	30	0
80	20	10	40
60	50	70	60
30	0	20	40



Mathematics Tutoring Session Template

You	Common Core Identification	
	Domain: Measurement and Data	Cluster: Measure lengths indirectly and by iterating length units.

2 Minutes	Standard 1: Order three objects by length; compare the lengths of two objects indirectly by using a third object.
	Key Academic Mathematics Vocabulary (3 or Fewer)
	Length – The distance from one end to the other, or how long something is. Longer – When two lengths are compared, the one that has more distance than the other. Shorter – When two lengths are compared, the one that has less distance than the other.
	Notes and Materials
	Notes and suggestions for an effective lesson: <ul style="list-style-type: none"> Gather about 10 objects of various lengths (e.g., pencil, crayon, eraser, paper clip, book, etc.) beforehand.
	Materials you will need: <ul style="list-style-type: none"> 10 objects of various lengths
	LAUNCH—Assess and Provide Background Knowledge
	1. Connect to prior learning. Use a "hook" to gain the student's attention. <ul style="list-style-type: none"> Show the student two objects and ask, “Which of these objects is longer? How do you know?” Discuss the response, then ask, “Which of the objects is shorter? How do you know?”
	2. Introduce and review Key Academic Mathematics Vocabulary <ul style="list-style-type: none"> Explain that the length of an object is how long it is.
	INSTRUCT—Provide Explicit, Interactive Instruction
8 Minutes	3. State the objective. Say, “Today we will compare objects and put them in order from longest to shortest.”
	4/5. Provide explicit, step-by-step instructions and model. <ul style="list-style-type: none"> Lay out three objects of three different lengths. Say, “I am going to put these objects in order from shortest to longest.” The student will watch as the tutor demonstrates. “Now I am going to put three other objects in order from longest to shortest.” Demonstrates. Make sure to identify the longest and shortest in each set. Pass the objects to the student and ask the student to put them back in order from shortest to longest, then longest to shortest. Give the student 3 different objects and instruct him/her to place the objects in order from shortest to longest, then longest to shortest.
	6. Check for understanding. <ul style="list-style-type: none"> Using the problem above, ask: “Which object is the longest? How do you know? Which object is the shortest? How do you know?”
	GUIDED PRACTICE—Monitor Student Work
5 Minutes	7. Student works problems independently while tutor watches and coaches. <ul style="list-style-type: none"> Give the student 3 different objects and instruct him/her to place the objects in order from shortest to longest, then longest to shortest.
5 Minutes	ASSESS—Evaluate Student Demonstration
5 Minutes	8. Student orally defines at least one Key Academic Mathematics Vocabulary word and skill or concept. <ul style="list-style-type: none"> Say, “Tell me what it means if we say one object is shorter than another.”

- Say, “Tell me what it means if we say one object is longer than another.”

9. Student works a problem while explaining EVERY step orally.

- Give the student 3 new objects. Watch and listen as he/she explains the steps for putting the objects in order from shortest to longest, then longest to shortest.



Mathematics Tutoring Session Template

Before You Begin	Common Core Identification	
	Domain: Measurement and Data	Cluster: Measure lengths indirectly and by iterating length units.
	Standard 2: Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.	
	Key Academic Mathematics Vocabulary (3 or Fewer)	
	Measure – Use standard unit to determine the length of an object. Length – The distance from one end to the other, or how long something is. End to end – In measuring the length of an object, the units must be placed at one end and repeated to the other end.	
	Notes and Materials	
	Notes and suggestions for an effective lesson: <ul style="list-style-type: none"> Pre-cut the paper strips, ensuring that each one spans an exact number of paper clips. Do not link the paper clips. 	
	Materials you will need: <ul style="list-style-type: none"> Paper clips Scissors 10 paper strips (cut 1-10 paper clips long) 	
	LAUNCH—Assess and Provide Background Knowledge	
	<ol style="list-style-type: none"> Connect to prior learning. Use a "hook" to gain the student's attention. <ul style="list-style-type: none"> Show the student one strip of paper. "I want to measure this piece of paper. What does it mean to measure?" Talk about the concept of measuring with the student. 	
2 Minutes	<ol style="list-style-type: none"> Introduce and review Key Academic Mathematics Vocabulary <ul style="list-style-type: none"> "There is one more word and a phrase we'll need to know to do our activity today: <i>length</i> and <i>end to end</i>. Length is how long something is." (Point from one end of a paper strip to the other to illustrate.) "The phrase <i>end to end</i> means we measure with objects without overlapping or gaps in between." (Hold two paper clips together, making sure they are just touching – not overlapping.) 	
	INSTRUCT—Provide Explicit, Interactive Instruction	
8 Minutes	<ol style="list-style-type: none"> State the objective. <ul style="list-style-type: none"> Say, "Today we will measure objects with paper clips." 	
	<ol style="list-style-type: none"> Provide explicit step-by-step instructions. <ul style="list-style-type: none"> Say, "When you measure with objects, each object needs to be the same. You need to place each object end to end with no gaps or without overlapping." Demonstrate lining up paper clips end to end. 	
	<ol style="list-style-type: none"> Model. <ul style="list-style-type: none"> Get out the paper strip that is 6 paper clips long. Demonstrate measuring the paper strip correctly by placing 6 paper clips end to end along the length of the strip. Make sure to stress the importance of placing the paper clips end to end without gaps or overlapping. Incorrectly measure the same strip by leaving large gaps in between each paper clip (use only 3 paper clips). Ask the student what you've done wrong and discuss. Incorrectly measure the same strip by overlapping the paper clips (use 10 paper clips). Ask the student 	

5 Minutes	what you've done wrong and discuss.
	6. Check for understanding (work problem with student). <ul style="list-style-type: none"> Place the same paper strip in front of the student and ask him/her to measure it using the paper clips (student should use only 6 paper clips).
	GUIDED PRACTICE—Monitor Student Work
	7. Student works problems independently while tutor watches and coaches. <ul style="list-style-type: none"> Place another paper strip in front of the student and ask him/her to measure the length correctly using the paper clips. Continue the activity with 5 other paper strips. Guide student where necessary.
5 Minutes	ASSESS—Evaluate Student Demonstration
	8. Student orally defines at least one Key Academic Mathematics Vocabulary word and skill or concept. <ul style="list-style-type: none"> Ask the student what it means to measure "end to end."
	9. Student works a problem while explaining EVERY step orally. <ul style="list-style-type: none"> Have the student measure the remaining paper strips.



Mathematics Tutoring Session Template

Before You Begin	Common Core Identification	
	Domain: Measurement and Data	Cluster: Tell and write time.
	Standard 3: Tell and write time in hours and half-hours using analog and digital clocks.	
	Key Academic Mathematics Vocabulary (3 or Fewer)	
2 Minutes	Hour hand – The short hand on the clock that shows the hour.	
	Minute hand – The longer hand on the clock that shows the number of minutes.	
	Analog clock – A clock with numbers from 1-12 with hands that rotate to show the time.	
	Digital clock – A clock that uses only numerals to show the time.	
8 Minutes	Notes and Materials	
	Notes and suggestions for an effective lesson:	
	<ul style="list-style-type: none">• Have various types of analog and digital clocks for the student to observe.• Show the student various times on the clocks.	
	Materials you will need:	
2 Minutes	<ul style="list-style-type: none">• Analog clock (Judy Clock, or a clock whose hands can be easily moved – not included)• White board• White board marker• Eraser	
	LAUNCH—Assess and Provide Background Knowledge	
	1. Connect to prior learning. Use a "hook" to gain the student's attention.	
	<ul style="list-style-type: none">• “What tool do we use to figure out what time it is?”	
8 Minutes	2. Introduce and review Key Academic Mathematics Vocabulary	
	<ul style="list-style-type: none">• Show the Judy Clock to the students. Tell the students that this type of clock is called an analog clock.• Show the students a digital and have them compare the difference between the two types of clocks.• Count the numbers around the analog clock.• Explanation of hands will be in the lesson.	
	INSTRUCT—Provide Explicit, Interactive Instruction	
	3. State the objective.	
8 Minutes	Say, “Today we will tell and write the time in hours using an analog and digital clock.”	
	4. Provide explicit step-by-step instructions.	
	<ul style="list-style-type: none">• Show the student the analog clock.• Point to the hour hand and say, “This hand of the clock always tells us the hour of the day.”• Say, “When we tell time to the hour, the minute hand” (point to the minute hand) “is always pointing straight up to the 12.”	
	5. Model.	
8 Minutes	<ul style="list-style-type: none">• Say, “To show 4:00, I move the hour hand to the 4 and the minute hand to the 12.”• Move the hands of the clock to show 4:00.• Say, “A digital clock would show 4:00 like this” (write “4:00” on the white board).• Choose another time to the hour and repeat.	
	6. Check for understanding (work problem with student).	
8 Minutes	<ul style="list-style-type: none">• Move the clock to show another time to the hour and ask the student to write the digital time on the	

5 Minutes	white board.
	GUIDED PRACTICE—Monitor Student Work
	7. Student works problems independently while tutor watches and coaches. <ul style="list-style-type: none"> Instruct the student to change the hands of the analog clock so it shows a new time to the hour. Have the student tell the time and write it as a digital time on the white board.
5 Minutes	ASSESS—Evaluate Student Demonstration
	8. Student orally defines at least one Key Academic Vocabulary word and skill or concept. <ul style="list-style-type: none"> Say, “Point to the hour hand on the clock and tell me what it shows.” Say, “Point to the minute hand on the clock and tell me what it shows.”
	9. Student works a problem while explaining EVERY step orally. <ul style="list-style-type: none"> The student will independently move the analog clock to show several times to the hour, then say and write the corresponding digital times on the white board.



Mathematics Tutoring Session Template

Before You Begin	Common Core Identification	
	Domain: Measurement and Data	Cluster: Represent and interpret data.
	Standard 4: Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.	
	Key Academic Mathematics Vocabulary (3 or Fewer)	
2 Minutes	Bar graph – A graph that uses bars to represent numbers from data that can be compared.	
	Category – A group into which the quantities or numbers have been sorted.	
	Data – The different categories and their numbers that will be represented on a graph.	
	Notes and Materials	
8 Minutes	Notes and suggestions for an effective lesson:	
	Materials you will need:	
	<ul style="list-style-type: none">• 5 blue snap or linker cubes• 5 red snap or linker cubes• 5 yellow snap or linker cubes• Blank bar graph (see handout)	
	LAUNCH—Assess and Provide Background Knowledge	
2 Minutes	1. Connect to prior learning. Use a "hook" to gain the student's attention.	
	<ul style="list-style-type: none">• Gather several of each color of cube in your hands.• Quickly show the student the cubes.• Take the cubes away and ask the student, "How many of each color of cube did I have?"• Ask the student if there might be a faster way to count the cubes.	
	2. Introduce and review Key Academic Mathematics Vocabulary.	
	<ul style="list-style-type: none">• Show the student a simple bar graph that has already been completed. Explain to the student that this is a bar graph.• Show the student where on the bar graph they can look to see the categories.• Show the student each individual bar, and tell him/her that this shows how many of that category was used.	
8 Minutes	INSTRUCT—Provide Explicit, Interactive Instruction	
	3. State the objective.	
	Say, "Today we will organize and represent data on a bar graph."	
	4/5. Provide explicit step-by-step instructions and model.	
8 Minutes	<ul style="list-style-type: none">• Gather 3 blue cubes, 1 red cube, and 2 yellow cubes into a pile. These will provide the data for the bar graph.• Explain that the categories for the bar graph will be the three colors. Label the graph with category color names.• Place each set of sorted cubes onto the bar graph above the correct color name.• Count how many blue cubes you have, how many red cubes you have, and how many yellow cubes you have.• Count how many data items are on the bar graph all together.• Pull the cubes off the graph and give them to the student.• The student will sort the cubes by their colors, place them on the bar graph above the correct category name, and count how many red, blue, and yellow cubes there are.• The student will count the data items on the bar graph all together.	

5 Minutes	
	<p>6. Check for understanding (work problem with student).</p> <ul style="list-style-type: none"> • Pull the cubes off the graph and give them to the student. • The student will sort the cubes by their colors, place them on the bar graph above the correct category name, and count how many red, blue, and yellow cubes there are. • The student will count the data items on the bar graph all together.
	GUIDED PRACTICE—Monitor Student Work
5 Minutes	<p>7. Student works problems independently while tutor watches and coaches.</p> <ul style="list-style-type: none"> • Give the student a new pile of cubes to sort: 4 blue cubes, 2 red cubes, and 3 yellow cubes. • The student will sort the cubes by their colors, place them on the bar graph above the correct category name, and count how many red, blue, and yellow cubes there are. • The student will count the data items on the bar graph all together.
	ASSESS—Evaluate Student Demonstration
	<p>8. Student orally defines at least one Key Academic Vocabulary word and skill or concept.</p> <ul style="list-style-type: none"> • Ask the student to tell you what kind of graph he/she has been creating. • Ask the student to identify the data from the graph, as well as the categories.
	<p>9. Student works a problem while explaining EVERY step orally.</p> <ul style="list-style-type: none"> • The student will gather several of each color of cube for their data points. • The student will sort the cubes by their colors, place them on the bar graph above the correct category name, and count how many red, blue, and yellow cubes there are. • The student will count the data items on the bar graph all together.

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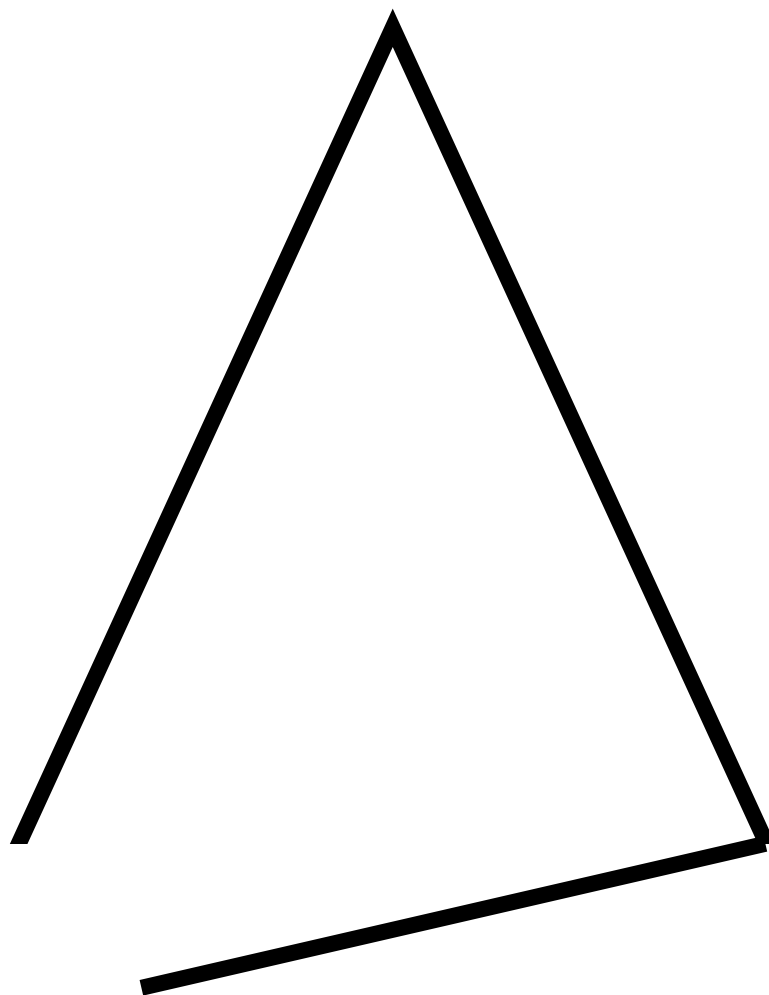
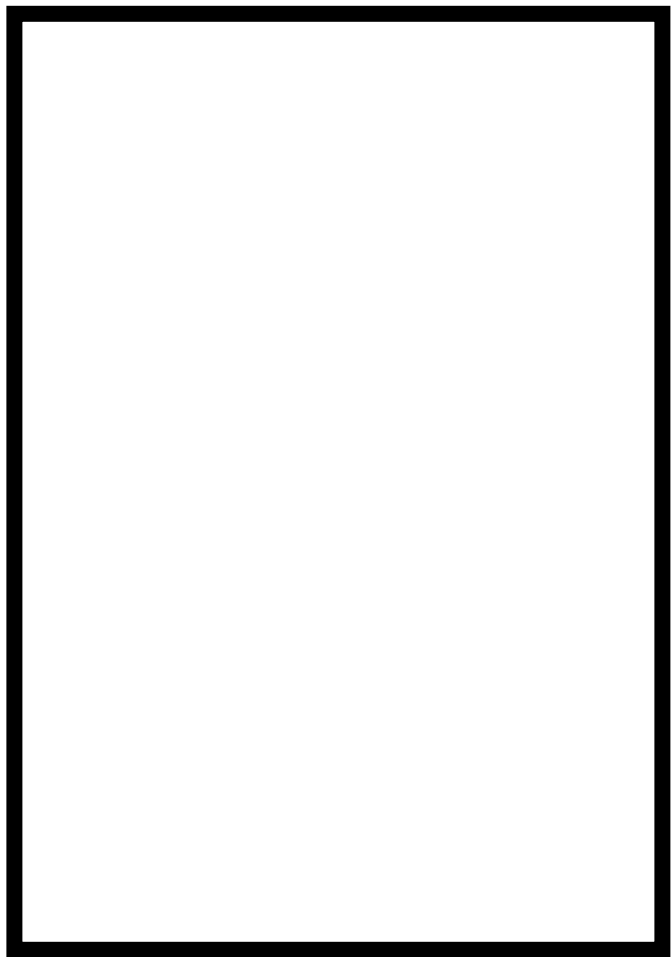
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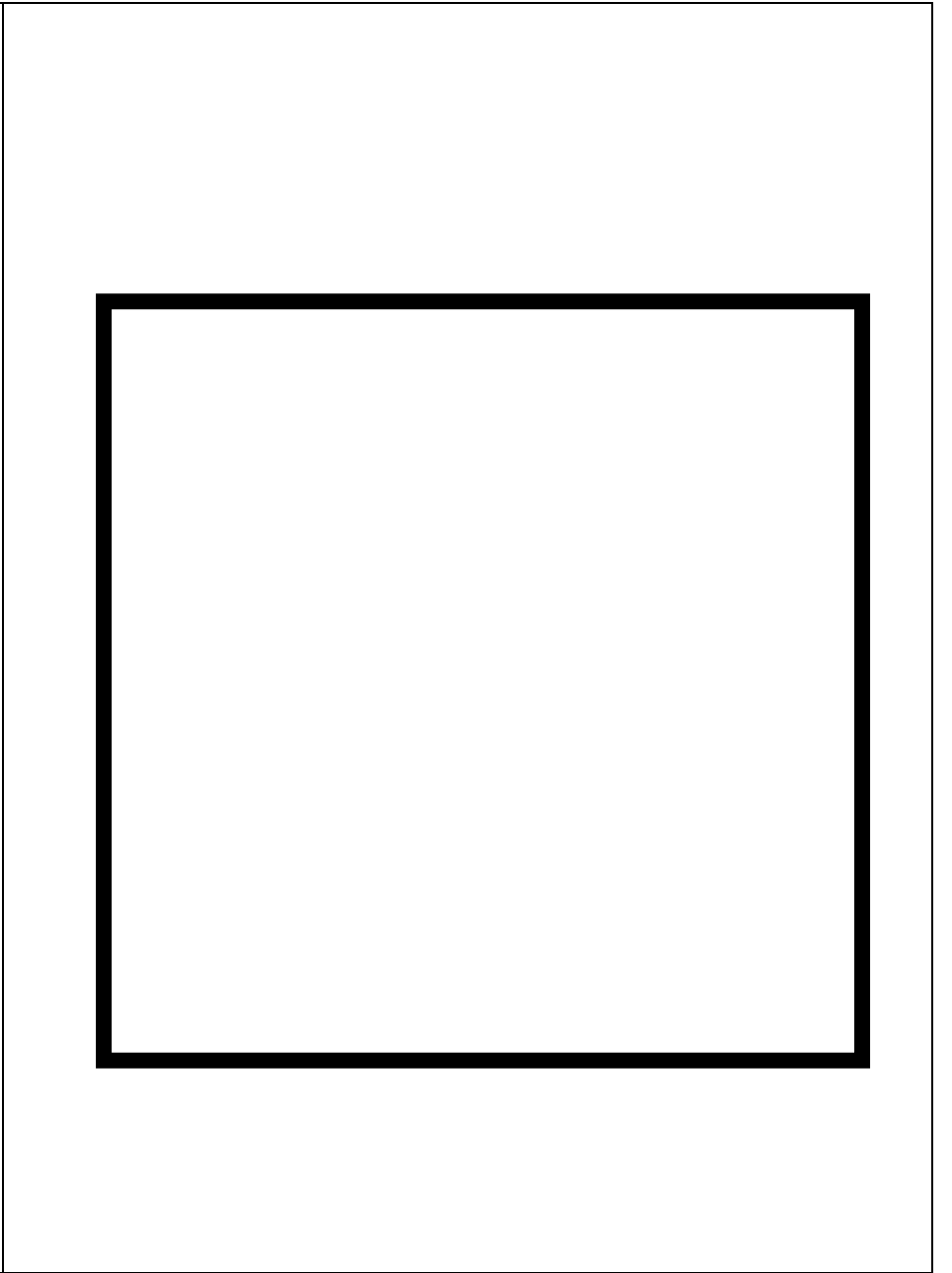
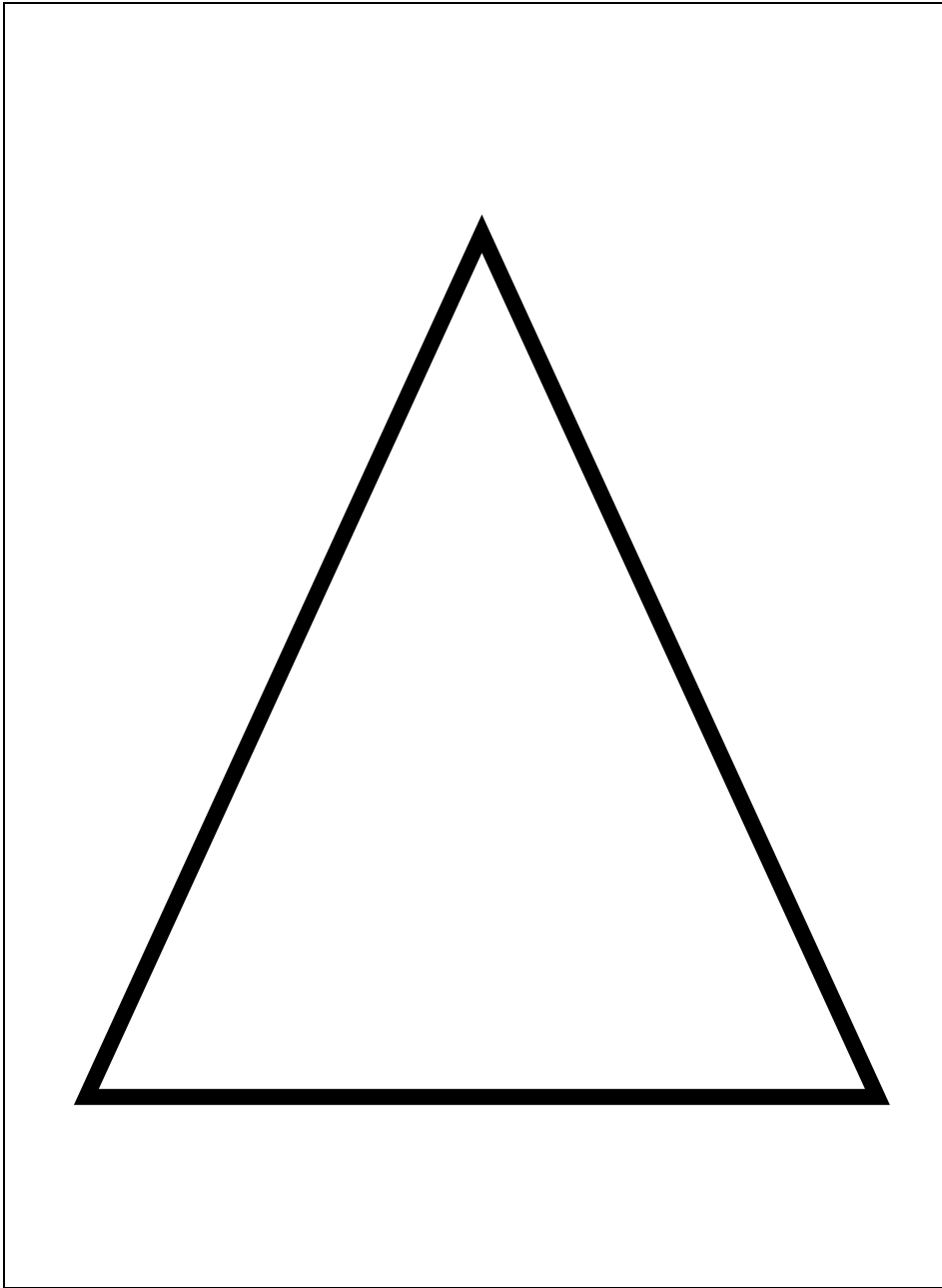


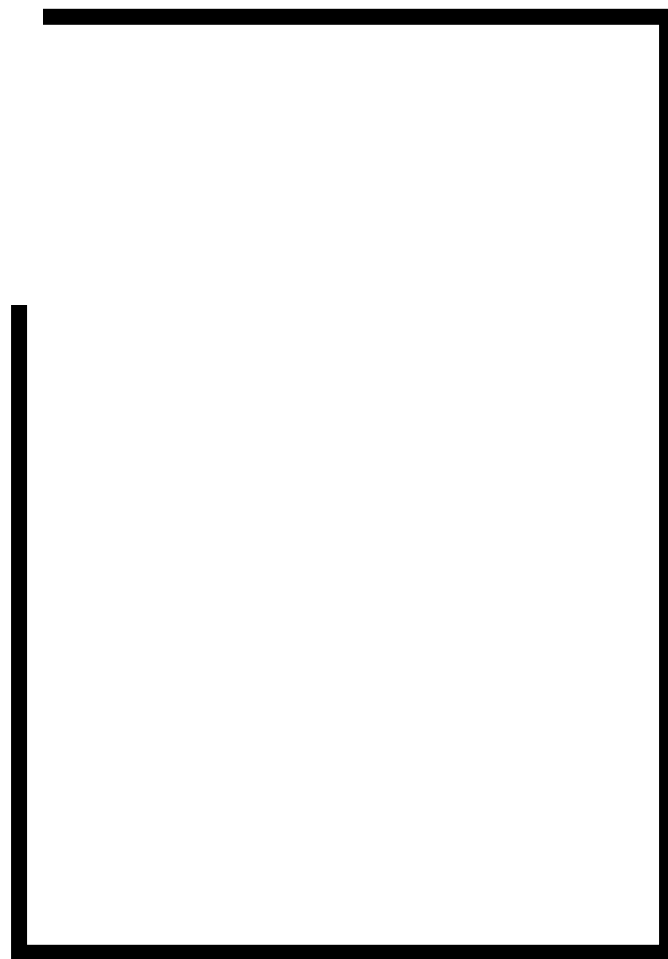
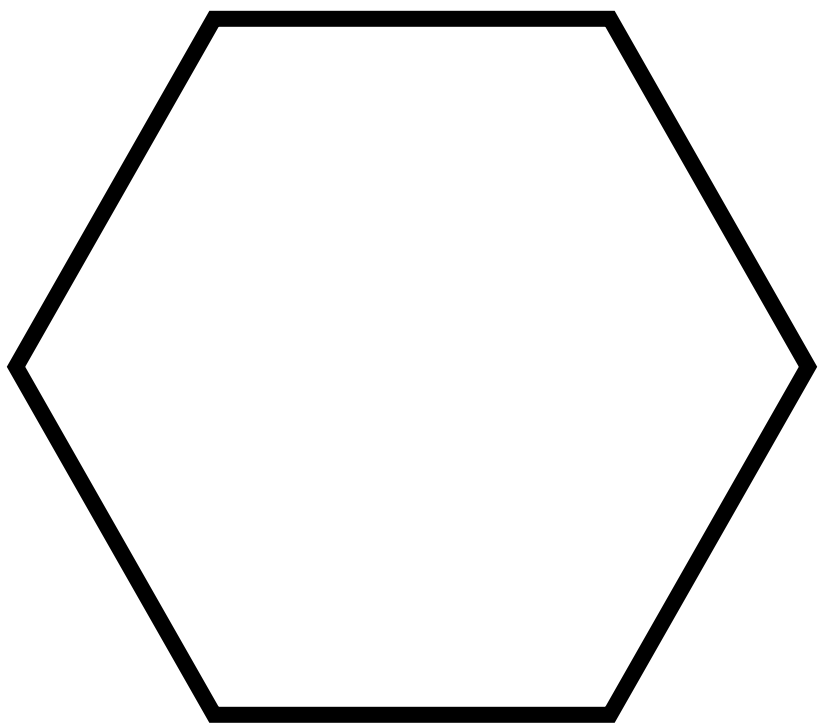
Mathematics Tutoring Session Template

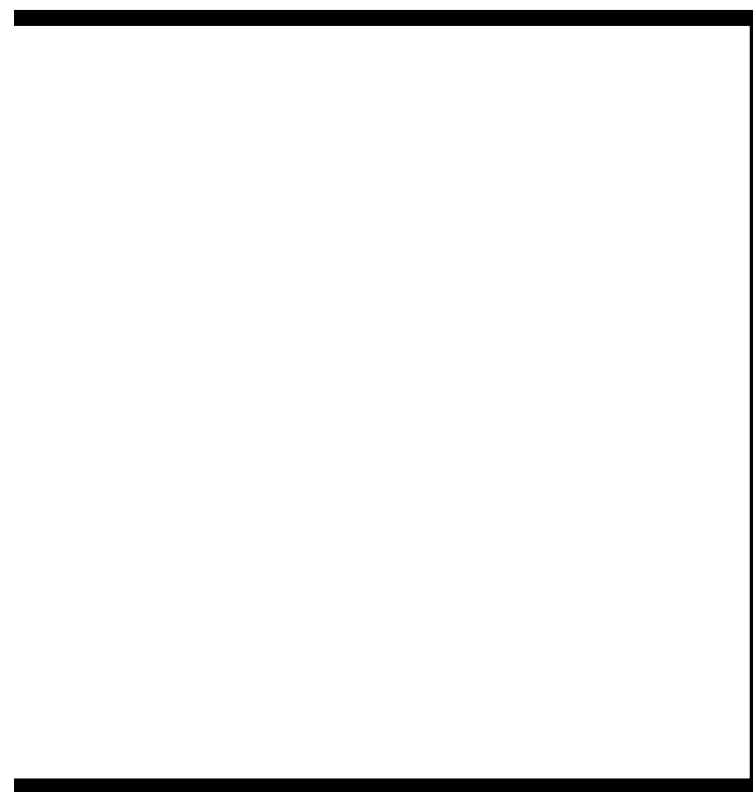
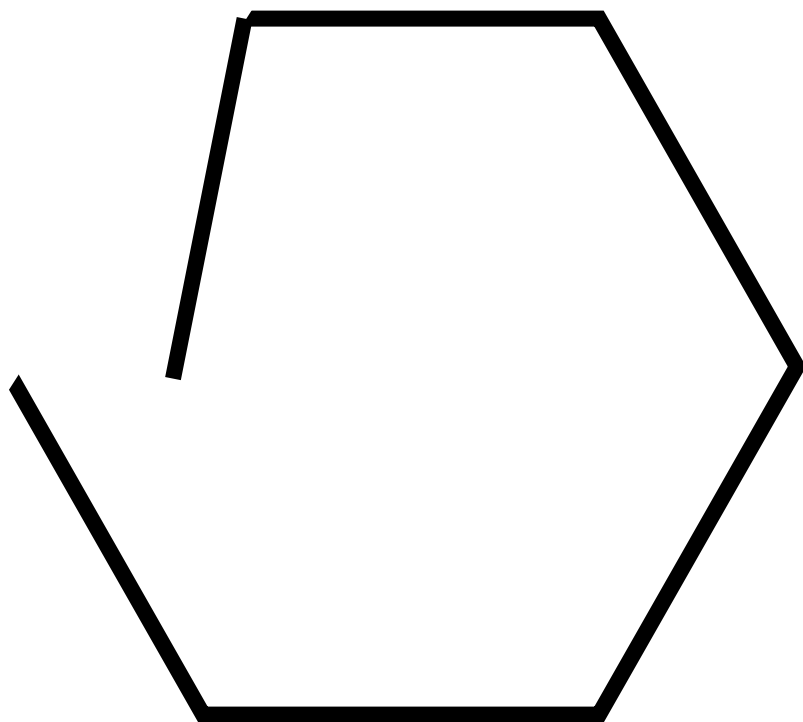
Before You Begin	Common Core Identification	
	Domain: Geometry	Cluster: Reason with shapes and their attributes.
	Standard 1: Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.	
	Key Academic Mathematics Vocabulary (3 or Fewer)	
	<p>Triangle – A closed, two-dimensional shape with 3 sides and 3 angles.</p> <p>Rectangle – A closed, two-dimensional shape with 4 sides and 4 equal angles.</p> <p>Square – A closed, two-dimensional shape with 4 equal sides and 4 equal angles.</p> <p>Hexagon – A closed, two-dimensional shape with 6 sides and 6 angles.</p> <p>Attribute – A characteristic that is used to identify the shape.</p>	
2 Minutes	Notes and Materials	
	Notes and suggestions for an effective lesson: -Students should be able to correctly identify the names of the pattern block shapes before doing the activity.	
	Materials you will need: <ul style="list-style-type: none"> • Pattern blocks (1 of each of the shapes mentioned above) • Shape mat • Chips 	
	LAUNCH—Assess and Provide Background Knowledge	
	1. Connect to prior learning. Use a "hook" to gain the student's attention. <ul style="list-style-type: none"> • Show the student the pattern block shapes one at a time asking them to identify each shape shown. 	
8 Minutes	2. Introduce and review Key Academic Mathematics Vocabulary. <ul style="list-style-type: none"> • Show the students the shape cards and have them identify the names of the shapes. • Have the student describe the attributes of the shapes. Example: Ask, "How do you know that this is a triangle?" 	
	INSTRUCT—Provide Explicit, Interactive Instruction	
	3. State the objective. <ul style="list-style-type: none"> • Students will be able to look at the attributes of shapes using examples and non-examples. 	
	4. Provide explicit, step-by-step instructions. <ul style="list-style-type: none"> • Show the student a picture of a triangle. Talk to the student about its attributes (i.e., it has 3 sides, 3 angles, and it is closed). • Now show the student a non-example of a triangle (e.g., rectangle, square, open figure). Discuss with the student why it is not a triangle. • Show the student a picture of a square. Talk to the student about its attributes (i.e., it has 4 equal sides, 4 equal angles, and it is closed). • Now show the student a non-example of a square (e.g., triangle, rectangle, open figure). Discuss with the student why it is not a square. • Show the student a picture of a rectangle. Talk to the student about its attributes (i.e., it has 4 sides with 4 equal angles, and it is closed). • Now show the student a non-example of a rectangle (e.g., triangle, hexagon, open figure). Discuss with the student why it is not a rectangle. • Show the student a picture of a hexagon. Talk to the student about its attributes (i.e., it has 6 sides, 6 angles, and it is closed). • Now show the student a non-example of a hexagon (e.g., rectangle, square, open figure). Discuss with the student why it is not a hexagon. 	

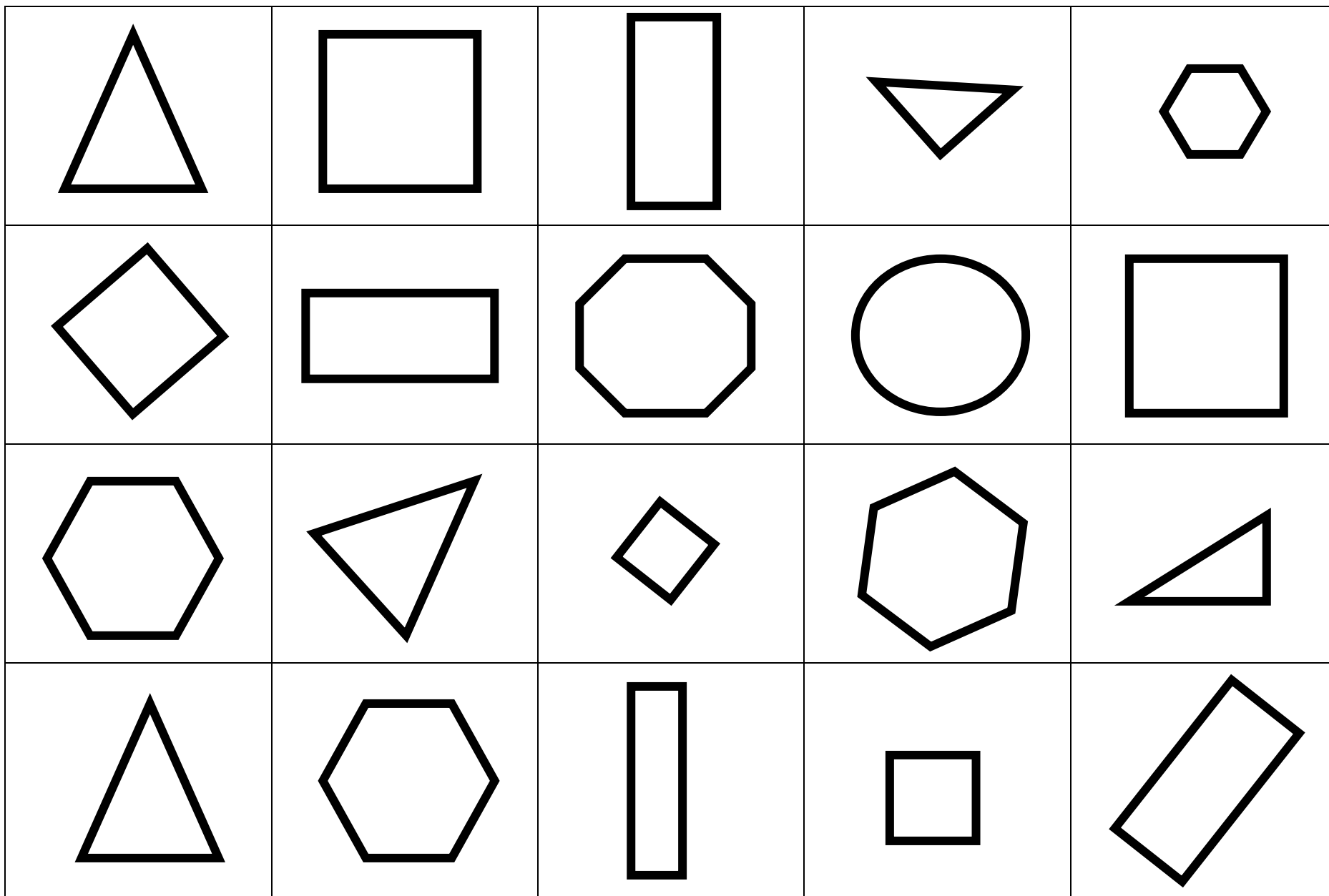
5 Minutes	
	<p>5. Model.</p> <ul style="list-style-type: none"> • Show the student the shape mat. • Say, “I am going to find a triangle and cover it up with a chip.” Choose one triangle and cover it up, then ask the student if the correct shape was covered up. • Repeat with square, rectangle, and hexagon. • Throughout the modeling, put the chip on one or two non-examples of the shapes and talk to the student about why they are not the correct shapes.
	<p>6. Check for understanding (work problem with student).</p> <ul style="list-style-type: none"> • Ask the student to help you find and cover up all the triangles on the shape mat. • Do the same with squares, rectangles, and hexagons. • If an incorrect example is covered by the student, take time to talk about why that example is incorrect.
	GUIDED PRACTICE—Monitor Student Work
5 Minutes	<p>7. Student works problems independently while tutor watches and coaches.</p> <ul style="list-style-type: none"> • Clear the shape board. This time the student will find the shapes independently. • Ask the student to cover all triangles. • Ask the student to cover all squares. • Ask the student to cover all rectangles. • Ask the student to cover all hexagons. • Ask the student to cover up anything that would not be considered a shape.
	ASSESS—Evaluate Student Demonstration
	<p>8. Student orally defines at least one Key Academic Vocabulary word and skill or concept.</p> <ul style="list-style-type: none"> • Ask the student to tell you the attributes of each shape (sides, angles, and closed): triangle, square, rectangle, and hexagon.
5 Minutes	<p>9. Student works a problem while explaining EVERY step orally.</p> <ul style="list-style-type: none"> • Mix up the shape cards and place them on the table. • Ask the student to cover all triangles. • Ask the student to cover all squares. • Ask the student to cover all rectangles. • Ask the student to cover all hexagons. • Ask the student to cover up anything that would not be considered a shape.









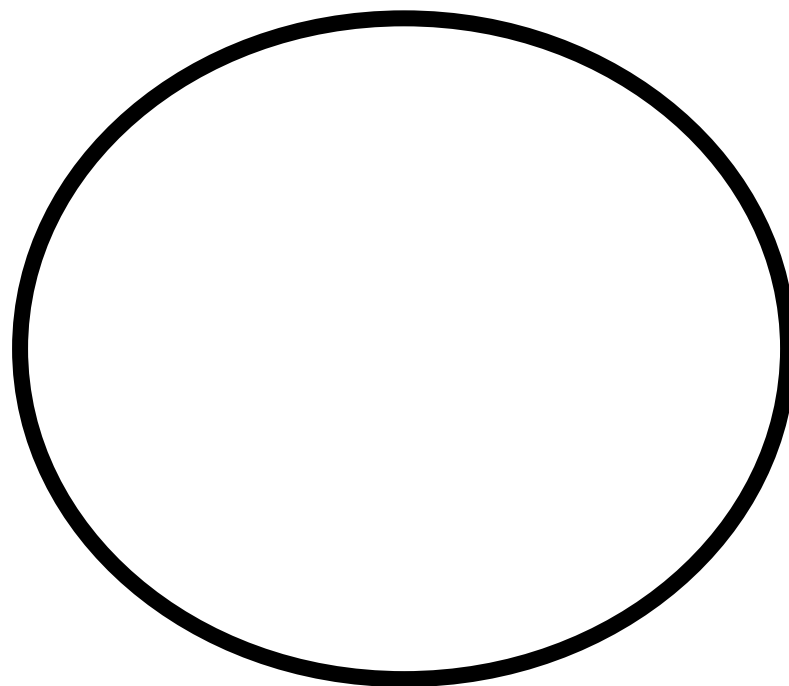
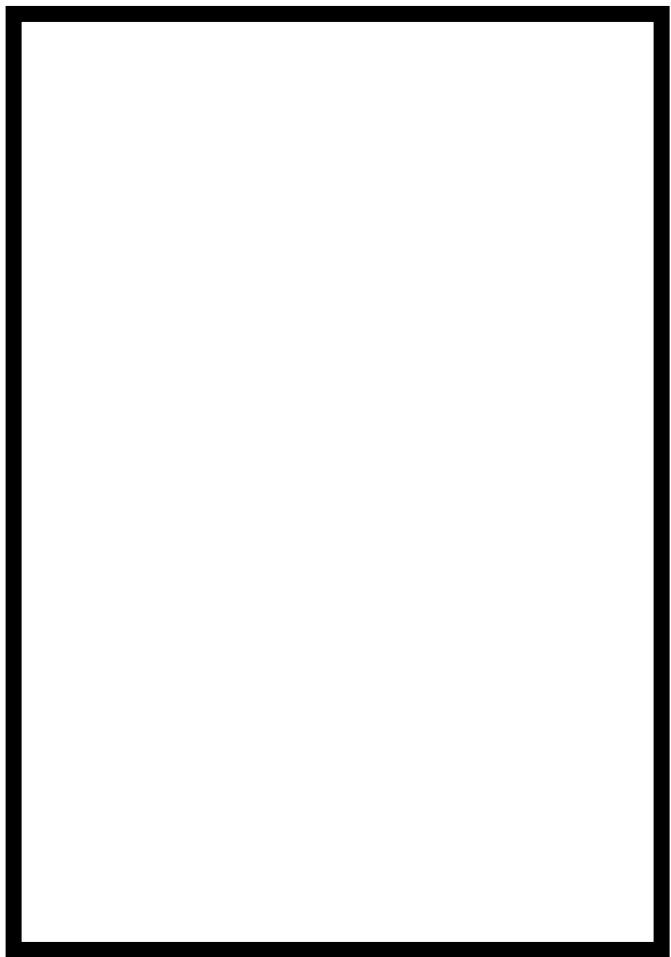


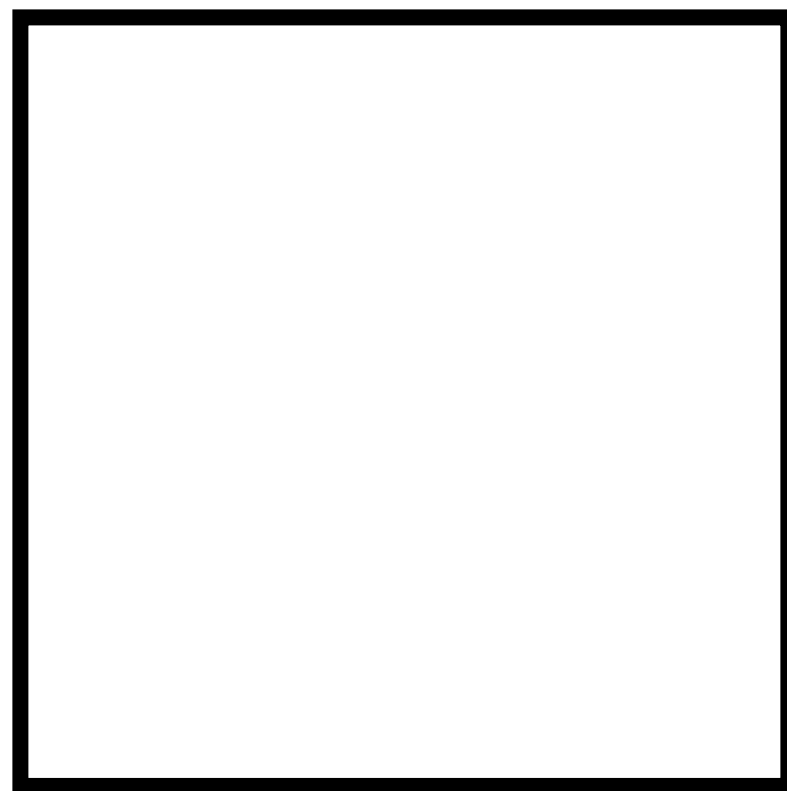
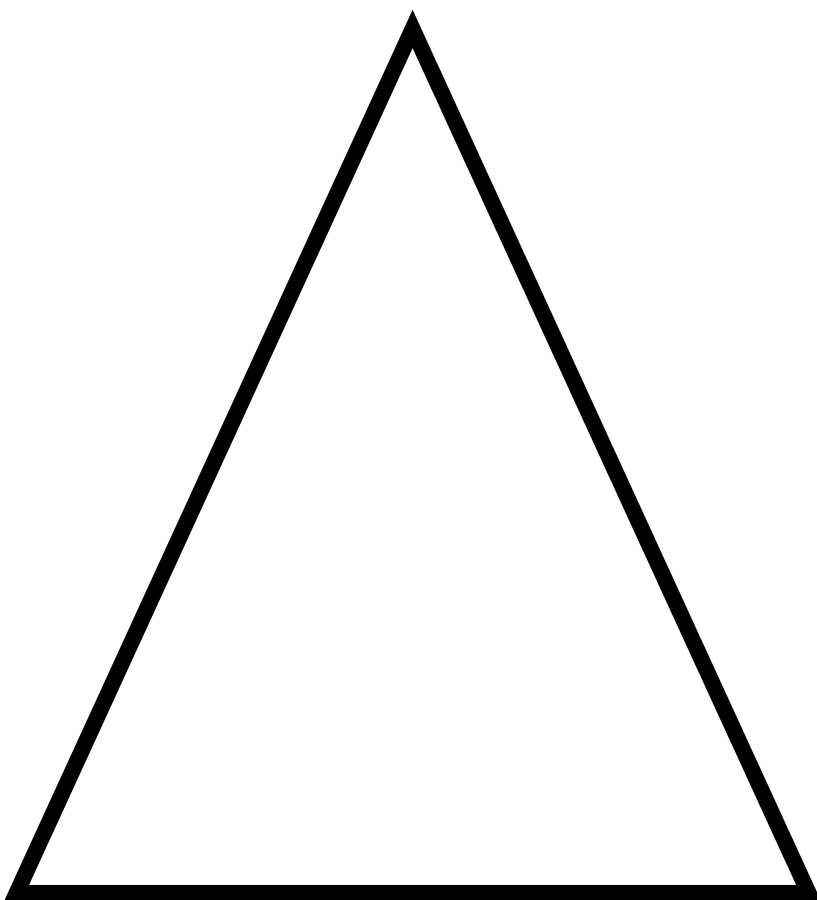


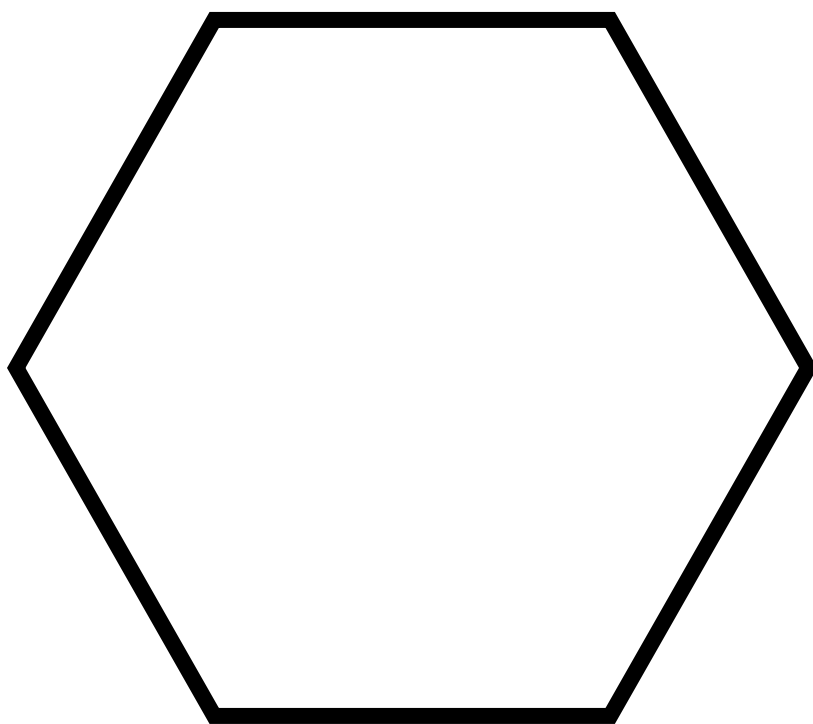
Mathematics Tutoring Session Template

Before You Begin	Common Core Identification	
	Domain: Geometry	Cluster: Reason with shapes and their attributes.
	Standard 2: Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.	
	Key Academic Mathematics Vocabulary (3 or Fewer)	
	Compose – To put two or more shapes together.	
	Notes and Materials	
2 Minutes	Notes and suggestions for an effective lesson:	
	<ul style="list-style-type: none"> Cut out shapes beforehand. Gain an understanding of how the shapes can be composed to make triangles, squares, rectangles, circles, and hexagons. 	
	Materials you will need:	
	<ul style="list-style-type: none"> Shape cut-outs Shape cards 	
8 Minutes	LAUNCH—Assess and Provide Background Knowledge	
	1. Connect to prior learning. Use a "hook" to gain the student's attention.	
	<ul style="list-style-type: none"> Give the student some shape cut-outs. Ask the student to show you what he/she can create using the shapes. 	
	2. Introduce and review Key Academic Mathematics Vocabulary.	
	<ul style="list-style-type: none"> Explain to the student that when he/she puts the shapes together he/she composes a different shape. 	
	INSTRUCT—Provide Explicit, Interactive Instruction	
	3. State the objective.	
	<ul style="list-style-type: none"> Students will be able to compose shapes to create other shapes. 	
	4. Provide explicit, step-by-step instructions.	
	<ul style="list-style-type: none"> Place the shapes on the table. Get 2 triangles. Say, "I am going to use these 2 triangles to create a square." Show the student how to make a square with the 2 triangles. Invite the student to do the same. Repeat this process as you create a rectangle (e.g., 2 squares), a hexagon (e.g., 2 trapezoids), a triangle (e.g., 1 trapezoid, 1 triangle), and a circle (e.g., 2 half-circles and/or 4 quarter-circles). 	
	5. Model.	
	<ul style="list-style-type: none"> Place the shapes on the table. Get 2 triangles. Say, "I am going to use these 2 triangles to create a square." Show the student how to make a square with the 2 triangles. Invite the student to do the same. 	
	6. Check for understanding (work problem with student).	
	<ul style="list-style-type: none"> See step 4. 	

5 Minutes	GUIDED PRACTICE—Monitor Student Work
	7. Student works problems independently while tutor watches and coaches. <ul style="list-style-type: none">• Show the student a shape card.• Give the student the shape cut-outs needed to compose the shape shown on the card.• Help the student where necessary.
	ASSESS—Evaluate Student Demonstration
	8. Student orally defines at least one Key Academic Vocabulary word and skills or concept. <ul style="list-style-type: none">• Discuss with the student what it means to “compose.”
	9. Student works a problem while explaining EVERY step orally. <ul style="list-style-type: none">• Show the student a shape card.• Have the student gather the shape cut-outs necessary to compose the shape shown on the card.





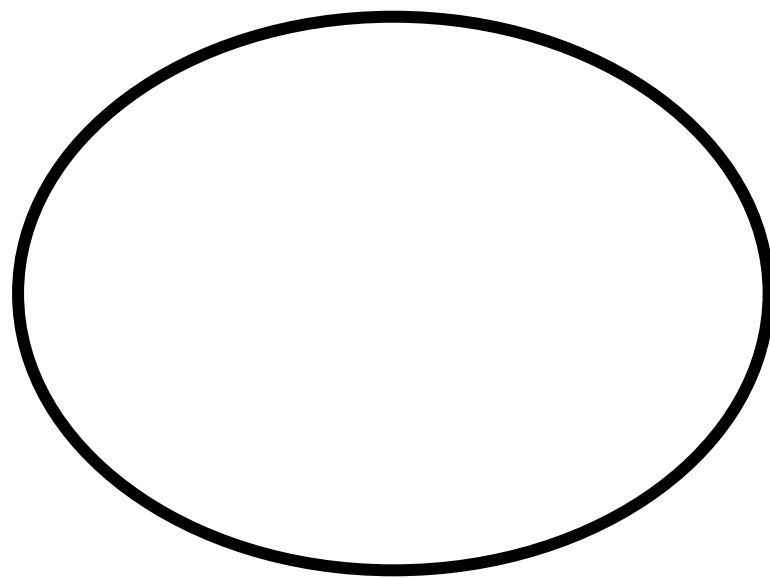
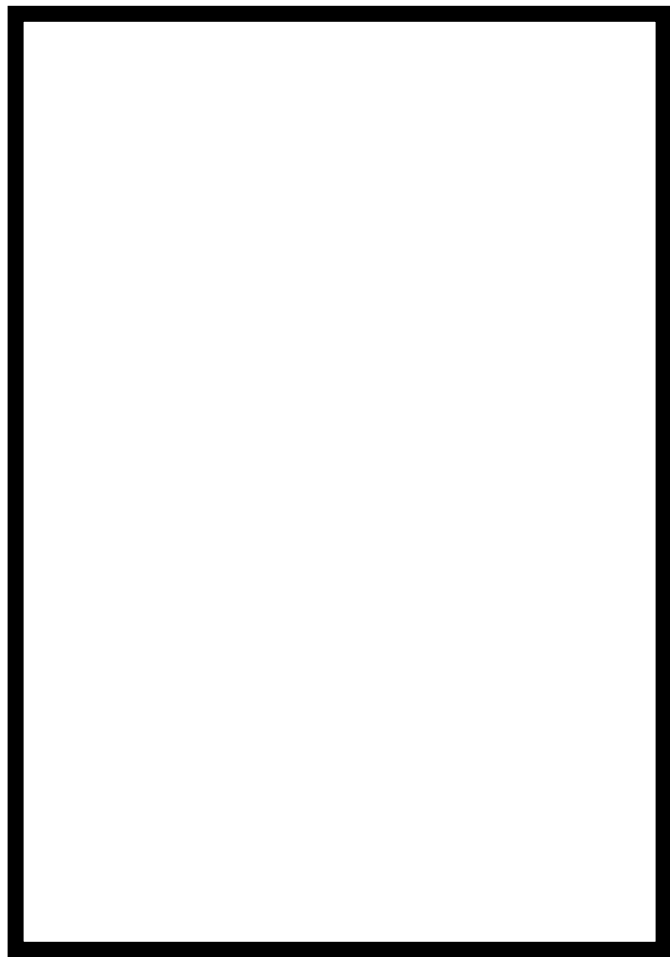




Mathematics Tutoring Session Template

Before You Begin	Common Core Identification	
	Domain: Geometry	Cluster: Reason with shapes and their attributes.
	Standard 3: Partition circles and rectangles into two and four equal shares; describe the shares using the words <i>halves</i> , <i>fourths</i> , and <i>quarters</i> ; and use the phrases <i>half of</i> , <i>fourth of</i> , and <i>quarter of</i> . Describe the whole as either two or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.	
	Key Academic Mathematics Vocabulary (3 or Fewer)	
	Halves – Two equal parts where each part is half of the whole. Fourths – Four equal parts where each part is a fourth of the whole. Quarters – Four equal parts where each part is a fourth of the whole. Equal Parts – All parts are exactly the same.	
2 Minutes	Notes and Materials	
	Notes and suggestions for an effective lesson: <ul style="list-style-type: none"> Cut out rectangle and circle beforehand. 	
	Materials you will need: <ul style="list-style-type: none"> Book: <i>Eating Fractions</i> by Bruce McMillan (not included) Circle cut-out Rectangle cut-out 	
	LAUNCH—Assess and Provide Background Knowledge	
	1. Connect to prior learning. Use a "hook" to gain the student's attention. <ul style="list-style-type: none"> Tutor reads the story <i>Eating Fractions</i>. Discuss each page and how the children shared their food. 	
8 Minutes	2. Introduce and review Key Academic Mathematics Vocabulary. <ul style="list-style-type: none"> Hold up the circle and say, “Let’s pretend this is a cookie. I’d like to share this cookie with you. What do you think I should do with the cookie?” (Responses should be about equal shares and halves and fourths.) 	
	INSTRUCT—Provide Explicit, Interactive Instruction	
	3. State the objective. <ul style="list-style-type: none"> Student will be able to divide shapes into equal parts; halves and fourths or quarters. 	
	4. Provide explicit, step-by-step instructions. <ul style="list-style-type: none"> Place the circle on the table. Say, “In order to divide this circle into halves, I need to make sure there are equal parts on both sides.” Fold the circle into halves while the student observes. (Make sure that the student sees that it is equal.) Now let the student divide the circle into halves. Repeat with fourths/quarters. Repeat all steps using the rectangle. 	
	5. Model. <ul style="list-style-type: none"> Place the circle on the table. 	

5 Minutes	<ul style="list-style-type: none"> • Say, “In order to divide this circle into halves, I need to make sure there are equal parts on both sides.” • Fold the circle into halves while the student observes. (Make sure that the student sees that it is equal.)
	6. Check for understanding (work problem with student). <ul style="list-style-type: none"> • As the student is folding the circle and rectangles in fourths/quarters, make sure he/she is folding them equally.
	GUIDED PRACTICE—Monitor Student Work
	7. Student works problems independently while tutor watches and coaches. <ul style="list-style-type: none"> • Give the student the circle. Ask the student to divide the circle first into halves, then into fourths/quarters. • Repeat with the rectangle.
	ASSESS—Evaluate Student Demonstration
5 Minutes	8. Student orally defines at least one Key Academic Vocabulary word and skill or concept. <ul style="list-style-type: none"> • Ask the student to explain the meanings of halves, fourths, quarters, and equal parts.
	9. Student works a problem while explaining EVERY step orally. <ul style="list-style-type: none"> • Give the student a circle and have him/her divide it into halves. Make sure that the student does it correctly and understands that he/she has two equal pieces. • Give the student a rectangle and have him/her divide it into fourths/quarters. Make sure that the student does it correctly and understands that he/she has four equal pieces.



END